
"ACUTE KIDNEY INJURY IN DENGUE FEVER, A ONE
YEAR HOSPITAL BASED CROSSECTIONAL STUDY"

By

REG NO. BG0116013

Dissertation

Submitted to the
KLE Academy of Higher Education and Research,
Belagavi, Karnataka
In partial fulfillment
of the requirements for the degree of

M. D.
in
GENERAL MEDICINE

**DEPARTMENT OF MEDICINE,
JAWAHARLAL NEHRU MEDICAL COLLEGE,
BELAGAVI, KARNATAKA**

APRIL – 2019

**KLE Academy of Higher Education and Research,
Belagavi, Karnataka**

ENDORSEMENT

This is to certify that the dissertation entitled “**ACUTE KIDNEY INJURY IN DENGUE FEVER, A ONE YEAR HOSPITAL BASED CROSSECTIONAL STUDY**” is a bonafide research work done by **REG NO. BG0116013**.

Dr. REKHA S. PATIL MD

Professor and Head,

Department of Medicine,

J. N. Medical College,

Nehru Nagar, Belagavi – 10

Date:

Place: Belagavi

Dr. N.S. MAHANTSHETTI MD

Principal,

J. N. Medical College,

Nehru Nagar, Belagavi – 10

Date:

Place: Belagavi

LIST OF ABBREVIATIONS

(IFN)-g	-	Interferon - G
/cumm	-	Per cubic millimeter
/m	-	Per meter
⁰ C	-	Degree centigrade
ADP	-	Adenosine diphosphate
AKI	-	Acute kidney injury
AKIN	-	Acute Kidney Injury Network
ALT	-	Alanine aminotransferase
aPTT	-	Activated partial thromboplastin time
ARDS	-	Acute respiratory distress syndrome
ARF	-	Acute renal failure
AST	-	Aspartate aminotransferase
BP	-	Blood pressure
bpm	-	Beats per minute
CI	-	Confidence interval
CK	-	Creatine kinase
CSF	-	Cerebrospinal fluid
DEN 3	-	Dengue Type 3
DENV	-	Dengue virus
DF	-	Dengue fever
DHF	-	Dengue hemorrhagic fever
DIC	-	Disseminated intravascular coagulation
DSS	-	Dengue shock syndrome
DV	-	Dengue virus

DVI	-	Dengue viral infection
e.g.	-	For example
ECG	-	Electrocardiography
ELISA	-	Enzyme-linked immunosorbent assay
ESR	-	Erythrocyte sedimentation rate
etc.	-	Et cetera
FDP	-	Fibrin degradation products
GGT	-	Gamma-glutamyl transpeptidase
GI	-	Gastrointestinal
h	-	Hour
Hb	-	Haemoglobin
HCO ₃	-	Serum bicarbonate
IgG	-	Immunoglobulin G
IgM	-	Immunoglobulin M
IHD	-	Ischaemic heart disease
IL	-	Interleukin
INR	-	International normalized ratio
IU/L	-	International units per liter
mg/dL	-	milligrams per deciliter
mm Hg	-	Millimeters of mercury
mm/hr	-	Millimeter per hour
mm ³	-	cubic millimeter
mmol/L	-	Millimole per litre
MODS	-	Multiple organ dysfunction syndrome
MODs	-	Multiple organ dysfunctions

MRD	-	Medical Records Department
n	-	Total number
NS1	-	Non-structural protein 1
NSAIDS	-	Non steroidal anti inflammatory drugs
NVBDC	-	National Vector Borne Diseases Control Programme
p	-	Probability
PAI-1	-	Plasminogen activator inhibitor-1
PCV	-	Packed cell volume
PT	-	Prothrombin time
RBC	-	Red blood cell count
RBS	-	Random blood sugar
RIFLE	-	Risk, injury, failure, loss of kidney function and end-stage acute kidney disease
RNA	-	Ribonucleic acid
RR	-	Respiratory rate
sec	-	Seconds
SD	-	Standard deviation
SEA	-	Southeast Asia
SGOT	-	Serum glutamic oxaloacetic transaminase
SGPT	-	Serum glutamic oxaloacetic transaminase
TF	-	Tissue factor
TLC	-	Total leukocyte count
TNF	-	Tumor necrosis factor
tPA	-	Tissue plasminogen activator
uPA	-	urokinase-type plasminogen activator

USG	-	Ultrasonography
vs	-	Versus
WBC	-	White blood cell count
WHO	-	World Health Organization

ABSTRACT

Background and objectives

Acute Kidney Injury (AKI) in patients with dengue infection (DI) remains least studied. This study was designed to evaluate prevalence of AKI in DF and find out the predictors of development of AKI in patients with DI.

Methodology

This one year hospital based cross sectional study was performed in the Department of General Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi from January 2017 to December 2017. A total of 535 eligible patients with DI were enrolled. These patients were evaluated for AKI based on acute kidney injury network (AKIN) criteria.

Results

Majority of the patients were males (75.51%) and male to female ratio was 3.08:1. Most of the patients were aged between 18 to 30 years (59.25%) and mean age was 31.52 ± 12.47 years. Majority of the patients (82.99%) had DF, 15.7% of the patients had dengue haemorrhagic fever and 1.31% of the patients had dengue shock syndrome. The prevalence of AKI was 5.79% in patients with dengue fever. Other than AKI, hepatitis (1.5%), MODS (0.93%) encephalitis (0.37%) were the complications noted. Majority of the patients (99.07%) improved and discharged and mortality was noted in 0.93% of the patients. Significant association was found between AKI and male sex, age, severity of disease, other complication, hypotension, serum creatinine at admission, platelet count $<20,000/\text{cumm}$, blood urea at admission and mortality ($p < 0.050$). Also significant differences were noted in patients with and

without AKI pertaining to age, pulse rate, respiratory rate, total count, neutrophils, lymphocyte, monocyte, International normalized ratio, aPTT), blood urea, Serum creatinine on day one, bicarbonate, total bilirubin, direct bilirubin, SGOT, SGPT and alkaline phosphatase ($p < 0.050$). However no association was found between AKI with serositis ($p = 0.097$),

Conclusion and interpretation

There is high prevalence of AKI in patients presenting with DI in the study area hence it cannot be neglected.

Keywords

Acute kidney injury; Dengue Infection; Renal disorders;

CONTENTS

SL. NO.	TOPIC	PAGE NO.
1.	INTRODUCTION	1-4
2.	OBJECTIVES	5
3.	REVIEW OF LITERATURE	6-44
4.	METHODOLOGY	45-51
5.	RESULTS	52-78
6.	DISCUSSION	79-93
7.	CONCLUSION	94
8.	SUMMARY	95-98
9.	BIBLIOGRAPHY	99-113
10.	ANNEXURES	
	ANNEXURE I – CONSENT FORM	114-117
	ANNEXURE II – PROFORMA	118-122
	ANNEXURE III – KEY TO MASTER CHART	123-125

LIST OF TABLES

TABLE NO.	DESCRIPTION	PAGE NO.
1	Distribution of patients according to the sex	53
2	Distribution of patients according to the age	54
3	Distribution of patients according to the clinical presentation	55
4	Distribution of patients according to the clinical signs	57
5	Distribution of patients according to urine analysis	58
6	Distribution of patients according to total count, SGOT and SGPT	60
7	Distribution of patients according to the chest X-ray findings	61
8	Distribution of patients according to USG abdomen	62
9	Distribution of patients according to the ECG findings	63
10	Distribution of patients according to the requirement of platelet transfusion	64
11	Distribution of patients according to the final diagnosis	65
12	Distribution of patients according to the other complications other than AKI	66
13	Distribution of patients according to the AKI	67
14	Distribution of patients according to the outcome	68

15	Clinical characteristics of the study population	69
16	Association of AKI with sex	70
17	Association of AKI with age	71
18	Association of AKI with severity of dengue fever	73
19	Association of AKI with complications	73
20	Association of AKI with serum creatinine at admission	74
21	Association of AKI with platelet count at admission	74
22	Association of AKI with blood urea at admission	75
23	Association of AKI with serositis	75
24	Association of AKI with hypotension	76
25	Association of AKI with mortality	76
26	Comparison of clinical and laboratory characteristics in patients with and without AKI	77

LIST OF GRAPHS

GRAPH NO.	DESCRIPTION	PAGE NO.
1	Sex distribution	53
2	Age distribution	54
3	Distribution of patients according to the clinical presentation	56
4	Distribution of patients according to the clinical signs	57
5	Distribution of patients according to the urine analysis - proteinuria	59
6	Distribution of patients according to the urine analysis - hematuria	59
7	Distribution of patients according to the X-ray findings	61
8	Distribution of patients according to the ECG findings	63
9	Distribution of patients according to the requirement of platelet transfusion	64
10	Distribution of patients according to the final diagnosis	64
11	Distribution of patients according to the other complications other than AKI	66
12	Distribution of patients according to the AKI	67
13	Distribution of patients according to the outcome	68

LIST OF FIGURES

GRAPH NO.	DESCRIPTION	PAGE NO.
1	Countries or areas of the world where dengue was reported in 2011, as per data collected by the World Health Organization	13
2	DF reported cases and deaths in India from 1991 till 2008	15
3	Dengue incidence rates (per million population) in India from 1998 to 2014	16
4	Average dengue incidence rates (per million population) by state in India from 1998 to 2014	24
5	Spectrum of clinical features of dengue virus infection	26

INTRODUCTION

Arboviruses represent a serious public health problem. They are frequently associated with epidemics that have great economic and social impact in tropical and subtropical regions of the world. Dengue virus (DENV) causes a highly infectious illness and is transmitted to humans by mosquitos of the *Aedes* family causing high rates of morbidity and mortality.¹

Dengue fever is the most important arthropod-borne viral infection of humans. Worldwide, an estimated 2.5 billion people are at risk of infection, approximately 975 million of whom live in urban areas of tropical and sub-tropical countries like Southeast Asia, the Pacific and the Americas.² The rural areas are also being increasingly affected in regions of Africa and the eastern Mediterranean. It is estimated that more than 50 million infections occur each year, of which 500,000 hospitalizations are of dengue haemorrhagic fever, mainly among children, with the case fatality rate exceeding 5% in some areas.²⁻⁵

Owing to rising trade activities and tourism across the world, the virus has been transported from the endemic region to various other parts of the world.^{6,7} As a result, compared with nine reporting countries in 1950, currently the geographic distribution includes >100 countries. Dengue fever (DF) has become a prominent infectious disease with outbreaks in many parts of the world. DF epidemics have reached almost 120 countries and in many of these countries it has a high incidence.⁸

According to historical accounts dengue fever emerged from Africa almost 500 to 600 years ago, and the first outbreaks reached different parts of world such as Asia and South America concurrently in the 1780s.⁹

During recent decades DF has become the second most prevalent mosquito-borne infection after malaria. Cases of DF have reached 50 million, while cases of Dengue hemorrhagic fever (DHF) are touching a staggering several millions per year. The most endemic regions include Latin America, Asia, and the Caribbean. Many dengue infections in travellers remain asymptomatic; a more serious issue is the travel-related spread of a more virulent dengue virus strain in an area with a less virulent strain, and also the spread of the virus in non-endemic regions with a high vector (*Aedes aegypti* and *Ae. albopictus*) population.¹⁰⁻¹²

The first outbreak of dengue fever in India was recorded in 1812.¹³ In spite of preventive measures taken by the respective governments since then, recurrent outbreaks have occurred, and over the last 10 to 15 years DF has been the major cause of hospitalization and mortality after acute respiratory and diarrhoeal infections among children.¹⁴ New Delhi, the capital of India located in the northern region of the country, experienced seven major outbreaks between 1967 and 2003.^{15,16} Then in 2006 another major outbreak occurred with more than 11,000 reported cases and 165 reported fatal cases. In India, total number of cases reported in the year 2015 were 99,913 and 220 deaths were reported.¹⁷ Although it was not declared as an epidemic in 2015, still the number of cases reported were high. In India, the incidence of dengue has been increasing year after year. Every monsoon brings along an outbreak of dengue. Thus, it becomes essential to study the different manifestations of this disease. Approximately 90% of the cases reported are children aged <5 years.¹⁴

Dengue fever has wide spectrum of clinical manifestations. During the early febrile stage (the symptoms of which include fever, malaise, headache, body pains and rash), clinicians cannot predict which patients will progress to severe disease.

Later, during defervescence, symptoms such as bleeding, thrombocytopenia of $<100,000$ platelets mm^{-3} , ascites, pleural effusion, increase in haematocrit of $>20\%$ and clinical warning signs, such as severe and continuous abdominal pain, restlessness and/or somnolence, persistent vomiting and a sudden reduction in temperature (from fever to subnormal temperature) associated with profuse perspiration, adynamia (loss of strength or vigor) and sometimes fainting, can be indicative of plasma extravasation and the imminence of shock. Other complications include massive haemorrhage, disseminated intravascular coagulation, multiple organ failure, and respiratory failure due to non-cardiogenic pulmonary oedema.¹⁸⁻²¹

A confirmed case of dengue fever is a case confirmed by laboratory criteria, that is, isolation of dengue virus from serum or demonstration of fourfold or greater change in reciprocal IgG or IgM antibody titers to one or more dengue virus antigens in paired serum samples or cerebrospinal fluid (CSF) samples by immunohistochemistry, immunofluorescence, or enzyme-linked immunosorbent assay (ELISA).¹⁸

As dengue and DHF are assuming global proportions, more and more atypical manifestations appear. Atypical manifestations of dengue fever are hepatitis, acute kidney injury, acute respiratory distress syndrome (ARDS), pancreatitis, febrile diarrhea, acalculous cholecystitis, myositis, myocarditis, conduction abnormalities, disseminated intravascular coagulation, and atrial fibrillation. Atypical manifestations also include neurological manifestations such as seizures, encephalitis, meningitis, transverse myelitis, and Guillain–Barré syndrome.

Dengue can affect various organs of the body including liver, hematological system, respiratory system and brain. Acute kidney injury (AKI) is one of the least

studied complications of dengue. The renal manifestations, though uncommon, are acute kidney injury (AKI), proteinuria, glomerulonephritis and haemolytic uraemic syndrome.²²

In cases with atypical manifestations, a high clinical suspicion is required to make an early diagnosis and initiate prompt treatment. If unrecognized, the delay in treatment leads to disastrous outcomes.

Every monsoon in our country brings in a surge of patients presenting with symptoms of dengue. Dengue outbreaks have become very frequent in the past few years occurring almost every year. Thus, it becomes important to identify different typical and atypical manifestations of dengue fever. This would aid in the providing early treatment, and better care to the patients and further studies are needed to identify any specific serotype which may be responsible for the atypical manifestations. Furthermore, here are only a few case reports²³⁻³⁰ in the literature and very few studies done on AKI in dengue viral infection (DVI).³¹⁻³⁴ There are frequent epidemics of dengue infection and limited data on involvement of renal system in dengue infection this study was planned to estimate prevalence of acute kidney injury in dengue fever.

OBJECTIVES

The objectives of this study were;

- To study the prevalence of acute kidney injury in dengue fever.
- To study the predictors of development of acute kidney injury in dengue fever.

REVIEW OF LITERATURE

Historical Aspects

The term “Dengue” was coined in the English medical literature from the West Indies during the 1827–1828 Caribbean epidemic that presented as exanthema with arthralgia. Dengue is a Spanish synonym for the Swahili “Ki denga Pepo” (a sudden cramp like seizure caused by an evil spirit). The term “Break bone fever” for the modern dengue was proposed in Philadelphia in 1780.³⁵ *Aedes aegypti* mosquito as a vector of dengue virus was first discovered by Bancroft in 1906.³⁶

The first historical account of DSS was reported by Benjamin Rush during an outbreak (1780) in Philadelphia among people living at Delaware River.³⁷ North America had similar outbreaks in the 18th and 19th centuries along the Atlantic coast, on the Caribbean Islands, and also in the Mississippi basin.

Shock and death cases were documented in a dengue epidemic in Queensland, Australia in 1897, while nearly 1250 persons died during the explosive Greek dengue epidemic of 1928. Another epidemic was related to substandard living conditions among refugees who moved from Turkey following the Greco-Turkish war of 1922. Dengue viruses for the first time were adapted to laboratory animals in the 1940’s (Dengue type 1 and 2) and 1950’s (Dengue type 3 and 4).³⁵

Dengue fever was first observed in Africa, but later with the increase in trade DF reached all parts of the world including Asia, South America and the Indian subcontinent that includes India, Pakistan, Bangladesh and Sri Lanka. These countries experience epidemics every year with cases reaching several thousands in numbers.³⁶

Hammon et al. in 1956 mentioned that DHF/DSS were associated with dengue virus.³⁵

The first case of dengue hemorrhagic fever in Southeast Asia was noted in Manila in 1953 to 1954 and outbreaks have since then been reported throughout the Indo-China Peninsula and the Indian sub-continent.³⁸

Dengue virus belongs to the Arbovirus group of viruses that are transmitted through insect vectors most commonly *Aedes Aegypti* mosquito. Virions are 40-50 nm in diameter and spherical in shape with 11kb single-stranded RNA containing a single open reading frame. Dengue virus consists of ten proteins, three of which are structural and seven non structural, and it has four serotypes, namely DENV1, DENV2, DENV3 and DENV4.³⁶

The Indian subcontinent is mainly affected by DENV2 and DENV3 serotypes. DENV1 and DENV4 were identified by studying neutralizing antibodies in the blood of volunteers in 1973 while DENV1 and DENV2 were isolated as a consequence of the failure of viral strains to cross-protect human volunteers.³⁹

All four virus serotypes cause similar illness, but severe and fatal hemorrhagic disease is more often associated with DENV2 and DENV3 infections. DENV2 (genotype IV) and DENV3 (genotype III) are the most commonly isolated genotypes.³⁶

Epidemics of dengue fever in India²⁷

Dengue fever is endemic in many parts of India barring the Himalayan and other mountainous regions where conditions are not conducive to the propagation of its vector. Outbreaks of dengue fever occur mostly in India, during or after the rainy

season, but outbreaks during summer season have also been reported due to storage of water for domestic purposes causing a rise in vector population.

Some of the epidemics of DHF/DSS which occurred in India are as follows:⁴¹

Epidemics of DHF/DSS in India⁴¹

Year	Region	Type of dengue virus
1964	Vellore, Tamil Nadu	DV-2
1966	Vellore, Tamil Nadu	DV-3
1968	Vellore, Tamil Nadu	DV- 1,2,3 & 4
1968	Kanpur, Uttar Pradesh	DV-4
1969	Kanpur, Uttar Pradesh	DV-4 and DV-2
1970	Hardoi, Uttar Pradesh	DV-2
1983	Kolkata, West Bengal	DV-3
1985	Jalore town, South-West Rajasthan	DV-3
1988	Delhi	DV-2
1990	Calcutta, West Bengal	DV-3
1988	Rural and urban areas of Gujarat	DV-2
1993	Mangalore, Karnataka	DV-2
1996	Ludhiana, Punjab	DV- 1,2,3 & 4
1996	Lucknow	DV-2
1996	Delhi	DV-2
1996	Delhi	DV-2
1997	Delhi	DV-1
1996	Delhi	DV-2 (Genotype IV)
1997	Delhi	DV-1

1996	Rural areas of Haryana	DV-2
2001	Dharmapuri district, Tamil Nadu	DV-2
NA	Andaman and Nicobar Islands	DV-2
2001	Gwalior, Madhya Pradesh	DV-2
2001	Chennai, Tamil Nadu	DV-3
2003	Northern India (Delhi & Gwalior)	DV-3
2005	Kolkata, West Bengal	DV-3
2003	Kanyakumari district, Tamil Nadu	DV-3
2003-04	Delhi	DV-3 (subtype III)
2003-05	Delhi	DV-1,2,3 & 4
2006	Delhi	DV-3
2006	Delhi	DV-1 & 3
2001-07	North India (Delhi and Gwalior region)	DV-1 (Genotype III)
2006	Delhi	DV-1,3 & 4
2008	Delhi region	DV-1,2 & 3
1956- 2005	Entire country	DV-2
2002-06	Delhi	DV-1, 2, 3 & 4
2003	Delhi	DV-3 (Genotype III)
2008	Ernakulam, Kerala	DV-2 & 3
2007	Rural areas of Madurai, Tamil Nadu	DV-3 (Genotype III)
2007	Andhra Pradesh	DV-1 & 4 (Genotype I)
2003-08	Different parts of the country	DV-3 (Genotype III)
2007-09	Delhi	DV 1, 2, 3 & 4
2009-10	Pune, Maharashtra	DV-4 (Genotype I)

Epidemiology

Worldwide

Based on recent estimates by WHO (2018), the incidence of dengue has grown dramatically around the world in recent decades. The actual numbers of dengue cases are underreported and many cases are misclassified.⁴²

One recent estimate indicates 390 million dengue infections per year (95% credible interval 284–528 million), of which 96 million (67–136 million) manifest clinically (with any severity of disease).⁴³ Another study, of the prevalence of dengue, estimates that 3.9 billion people, in 128 countries, are at risk of infection with dengue viruses.⁴⁴

Member States in three WHO regions regularly report the annual number of cases. The number of cases reported increased from 2.2 million in 2010 to 3.2 million in 2015. Although the full global burden of the disease is uncertain, the initiation of activities to record all dengue cases partly explains the sharp increase in the number of cases reported in recent years.⁴²

Cases across the Americas, South-East Asia and Western Pacific exceeded 1.2 million in 2008 and over 3.2 million in 2015 (based on official data submitted by Member States). Recently the number of reported cases has continued to increase. In 2015, 2.35 million cases of dengue were reported in the Americas alone, of which 10 200 cases were diagnosed as severe dengue causing 1181 deaths.⁴²

Not only is the number of cases increasing as the disease spreads to new areas, but explosive outbreaks are occurring. The threat of a possible outbreak of dengue fever now exists in Europe as local transmission was reported for the first time in

France and Croatia in 2010 and imported cases were detected in 3 other European countries. In 2012, an outbreak of dengue on the Madeira islands of Portugal resulted in over 2000 cases and imported cases were detected in mainland Portugal and 10 other countries in Europe. Among travellers returning from low- and middle-income countries, dengue is the second most diagnosed cause of fever after malaria.⁴²

In 2013, cases have occurred in Florida (United States of America) and Yunnan province of China. Dengue also continues to affect several South American countries, notably Costa Rica, Honduras and Mexico. In Asia, Singapore has reported an increase in cases after a lapse of several years and outbreaks have also been reported in Laos.⁴⁵

In 2014, trends indicate increases in the number of cases in the People's Republic of China, the Cook Islands, Fiji, Malaysia and Vanuatu, with Dengue Type 3 (DEN 3) affecting the Pacific Island countries after a lapse of over 10 years. Dengue was also reported in Japan after a lapse of over 70 years.⁴²

The year 2016 was characterized by large dengue outbreaks worldwide. The Region of the Americas region reported more than 2.38 million cases in 2016, where Brazil alone contributed slightly less than 1.5 million cases, approximately 3 times higher than in 2014. 1032 dengue deaths were also reported in the region. The Western Pacific Region reported more than 375 000 suspected cases of dengue in 2016, of which the Philippines reported 176 411 and Malaysia 100 028 cases, representing a similar burden to the previous year for both countries. The Solomon Islands declared an outbreak with more than 7000 suspected. In the African Region, Burkina Faso reported a localized outbreak of dengue with 1061 probable cases.⁴²

In 2017 (as of Epidemiological Week 11), the Region of Americas have reported 50 172 cases of dengue fever, a reduction as compared with corresponding periods in previous years. The Western Pacific Region has reported dengue outbreaks in several Member States in the Pacific, as well as the circulation of DENV-1 and DENV-2 serotypes.⁴²

The Island of Hawaii, United States of America, was affected by an outbreak with 181 cases reported in 2015 and ongoing transmission in 2016. The Pacific island countries of Fiji, Tonga and French Polynesia have continued to record cases.⁴²

Up to 3.6 billion people are estimated to live in tropical and subtropical areas where the dengue viruses have the potential to be transmitted. Global estimates vary, but approximately 50 million to 200 million dengue infections, 500,000 episodes of severe dengue (DHF/DSS), and over 20,000 dengue related deaths occur annually.^{46,47}

Figure 1 shows the geographic distribution of dengue cases reported in 2011.³⁸

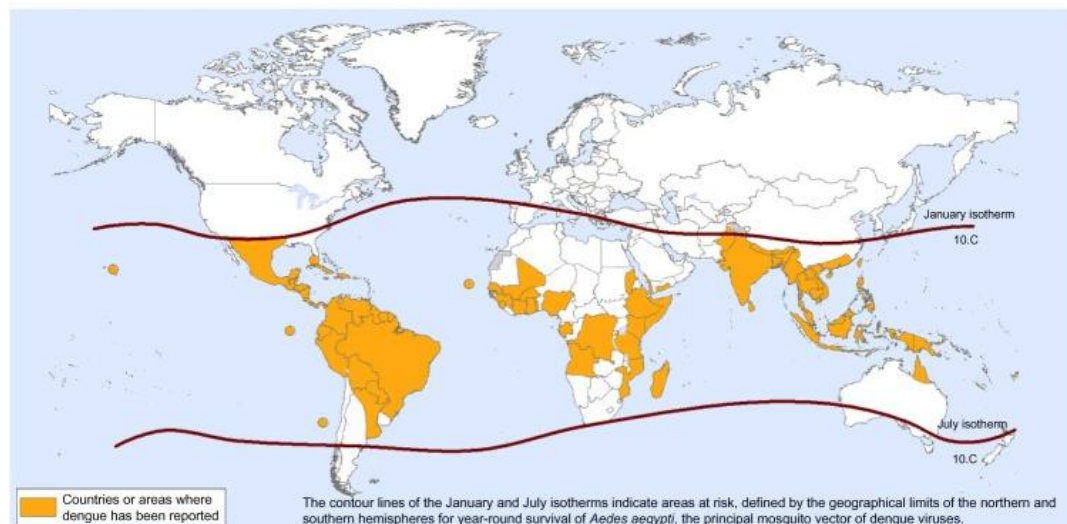


Figure 1. Countries or areas of the world where dengue was reported in 2011, as per data collected by the World Health Organization⁴⁷

Despite the level of uncertainty on total numbers, There evidence that every WHO region now has dengue transmission and that there are more than 125 dengue endemic countries globally.^{46,47}

WHO Southeast Asia (SEA) region

It is evident that dengue is now a worldwide concern; however, almost 75% of the global population exposed to dengue live in Asia-Pacific.⁴⁶⁻⁴⁸ 1.3 billion of these at-risk individuals live in ten dengue endemic countries in SEA, and dengue is a leading cause of hospitalization and death in children from the region.³⁸ The rates of disease reported in each of the SEA countries varies as they include either laboratory confirmed, probable, or suspected cases.⁴⁹

However, it is clearly evident from data collated by WHO that, in SEA, an overall expansion of dengue has occurred over the last decade. In 2003, eight countries in SEA had reported cases of dengue and, by 2009, all SEA member countries excluding the Democratic People's Republic of Korea reported indigenous cases.⁴⁸ Epidemics continue to persist on regular 3–5 year cycles throughout SEA, and the number of reported cases continues to increase along with the severity of cases in many member countries.⁴⁹ 187,333 dengue cases were reported to WHO in 2010 from the region.⁵⁰ Eight SEA countries are now also classified as hyperendemic with all four of the dengue virus serotypes present.⁴⁸ Severe dengue is endemic in most SEA countries, with rates of severe dengue being 18 times higher in this region compared with the Americas.^{46,48,49}

Indian scenario

The first outbreak of dengue fever in India was recorded in 1812.¹³ In spite of preventive measures taken by the respective governments since then, recurrent outbreaks have occurred, and over the last 10 to 15 years DF has been the major cause of hospitalization and mortality after acute respiratory and diarrheal infections among children.¹² New Delhi, the capital of India located in the northern region of the country, experienced seven major outbreaks between 1967 and 2003.^{15,16}

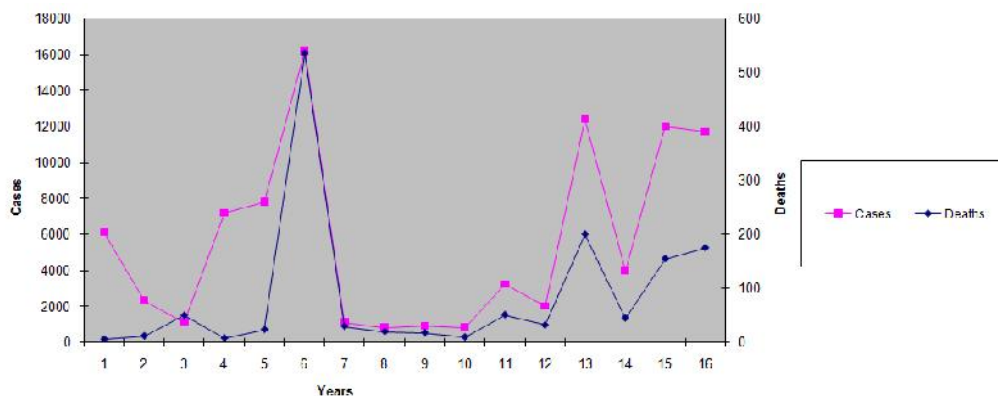


Figure 2. DF reported cases and deaths in India from 1991 till 2008³⁶

Then in 2006 another major outbreak occurred with more than 11,000 reported cases and 165 reported fatal cases. Figure 2 shows data obtained from the World Health Organization (WHO) exhibiting the number of DF cases reported in India from 1991 to 2008 as well as the annual reported fatality rate during this period.⁵¹

In 2015, Delhi, India, recorded its worst outbreak since 2006 with over 15000 cases.

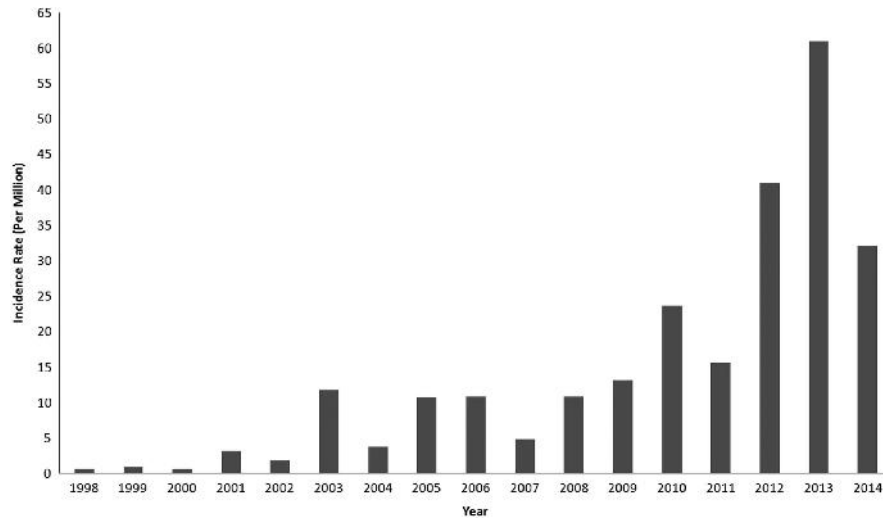


Figure 3. Dengue incidence rates (per million population) in India from 1998 to 2014⁵²⁻⁵⁴

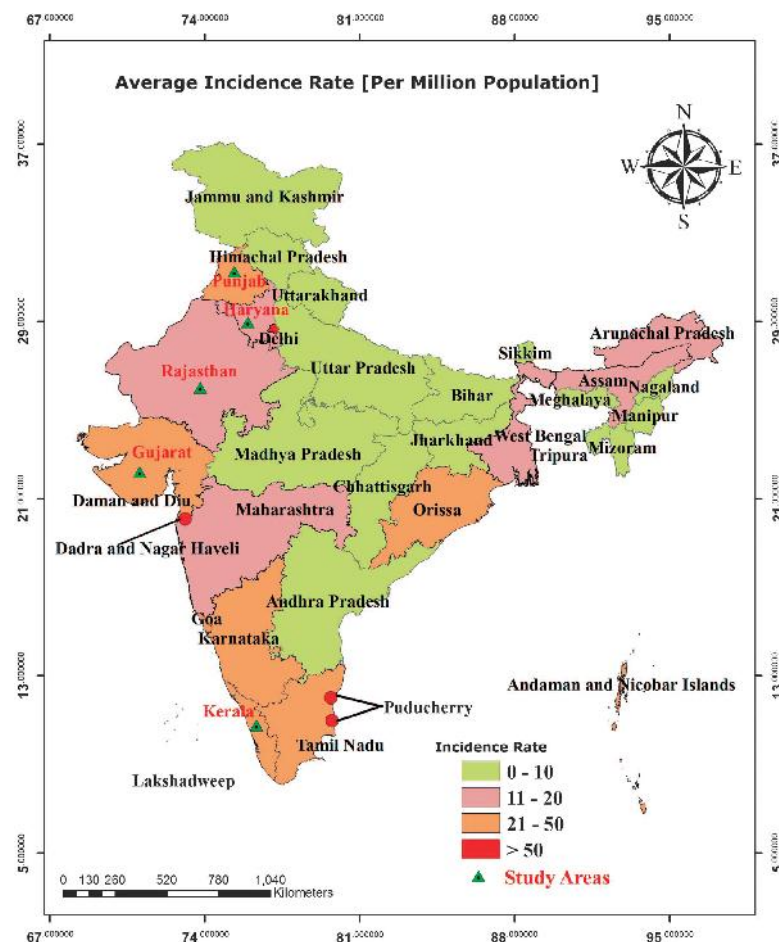


Figure 4. Average dengue incidence rates (per million population) by state in India from 1998 to 2014⁵³

Samples isolated from Gujarat state showed that the epidemics of 1988-89 were dominated by DENV2. As time passed, dengue virus outbreaks reached different states of India. In 1992 Jammu also saw an outbreak of DENV2 followed by an outbreak in Haryana. DENV2 outbreaks were seen in Northern India in Delhi, Lucknow and Gwalior. However, DENV1 was the predominant serotype in the outbreak of 1997 in New Delhi. The Gwalior outbreaks of 2003-04 were dominated by DENV3, and DENV3 was also prominent in 2004-05 at Delhi. This co-circulation of serotypes in the same area might be the reason behind the large number of DHF cases reported that year.⁴¹

Rapid growth of the population and sudden climatic changes contributed to the increase in cases of DF/DHF in India. During 1997 until 2004, DENV1 was seen as the causative agent of most DF/DHF cases but later in 2005, DENV3 became the leading source of dengue outbreaks. According to the WHO in 2006, the total number of reported cases reached 12,317, while in 2007 fewer cases occurred 5,534 owing greatly to preventive measures taken by both the public and private sectors. In 2009, however, DF cases again reached 11,476 by November. Initial cases were reported in July 2009 with the greatest number of cases seen in October. These trends demonstrate that DENV has penetrated deep into India, with DENV2 and DENV3 predominating among different DENV serotypes.³⁶

Dengue fever in Karnataka

Until mid-1990s, dengue was reported from only three of the four South Indian states, namely, Andhra Pradesh, Karnataka and Tamil Nadu. Based on Daily Report of Dengue in Karnataka State by National Vector Borne Diseases Control Programme (NVBDC), Delhi, there were 30694 infections in the state.⁵⁴

A study from Mangalore reported that, of the total 466 cases, admitted to the hospital between 2002 and 2008, 391 (83.9%) had dengue fever, 41 (8.8%) had dengue hemorrhagic fever, and 34 (7.3%) had dengue shock syndrome. The year 2007 had the highest number of reported cases, 219 (47%). Most of dengue cases occurred during the month of September, 89 (19.1%). Davangere (41.2%), Shimoga (23%), and Udupi (7.5%) were the districts from where the cases were reported predominantly.⁵⁵

More recently Kalappanavar NK et al.⁵⁶ reported 570 patients admitted to tertiary care hospital of S. S. Institute of medical sciences and research centre, Davangere, Karnataka from June 2009 and May 2010. Of the 570 patients investigated for dengue, 123 were positive for NS1 antigen and dengue IgM antibodies, of these 75 (61.8%) were males and 48 (38.2%) were females. Their age ranged from 2 years to 15 years with the mean age of 9.5 ± 3.2 years. According to WHO classification dengue fever was diagnosed in 56 (45.5%), dengue hemorrhagic fever in 37 (30.1%) and 30 (24.4%) dengue shock syndrome. The mean duration of fever in this study was 8 days (4.5 to 9 days) and the longest duration of fever was more than 4 weeks in 6 patients. Among the various clinical features, fever was the most common clinical presentation occurring in all patients on presentation. There was no specific pattern of fever and height of fever ranged from 38°C to 40°C . Other common clinical features were retro orbital pain (61%), flushing in 65% and rashes were seen in 74.8%. acute respiratory distress syndrome was seen in 27.6%, hepatomegaly in 22.8%, malena 10 (8.1%), ascitis in 22.8% and encephalopathy in 5.7%. Peripheral smears for malaria and serology for typhoid were negative in all cases. The mean hematocrit was 47 (38.2%) at the time of admission. Thrombocytopenia (platelet count $< 100\ 000/\text{mm}^3$) was present in 113 (91.9%) and leucocytopenia ($\text{TLC} < 4\ 000/\text{mm}^3$) in 96 (70%). Patients ALT and AST $> 100\ \text{IU/L}$

was present in 27(22%) cases. Ten dengue shock syndrome (8.1%) patients died. The probable reason was the patients were brought to our hospital very late and at admission had profound shock, unconsciousness and expired within 24 h of admission. Rest all the patients were managed with intravenous fluids and recovered uneventfully. Hence outcome was good in patients who were referred early.

Pathology and Pathogenesis

Certain terms, which are come across during the pathogenesis of dengue fever are;

Homotypic infection

Refers to the infection caused by dengue virus strains of a single serotype.

Heterotypic infection

Refers to the infection caused by different virus serotype.

Primary infection

Is infection caused by any serotype in non-immune individual.

Secondary infection

Is heterotypic infection in a monotype immune individual.

Tertiary infection

Is heterotypic infection in a multitypic immune individual (two infection).

The most significant pathophysiologic changes among DV infections are seen in DHF/DSS, due to plasma leakage from intravascular to extravascular compartments. The leakage of plasma leads to hemoconcentration, hypotension, hypoproteinemia and collection of fluid in serious cavities. The plasma leakage occurs as a result of acute increase in vascular permeability, which is attributed to transient functional disturbance due to action of short acting chemical mediators as no significant inflammatory or destructive vascular lesions are seen on histological examination.

Most accepted hypothesis explaining the pathogenesis of DHF/DSS is immune enhancement hypothesis. According to this hypothesis presence of non-neutralizing heterologous antibody is necessary for occurrence of serious manifestations due to vessel wall dysfunction. This heterologous antibody acquired either transplacentally from mothers or as a result of first infection binds to DV and facilitate the entry of virus into the cells of monocyte macrophage lineage. Within these cells, rapid viral replication occurs through a process called antibody dependent enhancement. These cells produce various vasoactive mediators e.g. tumour necrosis factor, interleukins (IL-1, IL-2, IL-6 etc.), platelet activating factor, complement activation products (C3a, C5a) and histamine. Simultaneously CD4 + T-Lymphocytes are also induced to produce gamma interferon, lymphotoxins and various interleukins. These cytokines have a complex interplay and act synergistically on vessel wall to produce increased vascular permeability.⁵⁷

Though immunopathogenesis is important in the severity of DHF/DSS, certain viral factors may also be important determinant of severity, genetic changes might be occurring in the virus leading to variation in virulence and epidemic potential. Certain

host factors like age, state of nutrition, sequence of infection for example serotype 1 followed by serotype 2 is more dangerous than serotype 4 followed by serotype 2 are also important in determining the severity of disease.⁵⁸

There are four serologically related dengue viruses that parenterally enter human hosts. After a short period of cross protection, individuals infected with one serotype are fully susceptible to infection with other types; in contrast there is life long immunity to reinfection by the homologous serotype. Primary and heterologous infections can be distinguished by their characteristic serological responses. In primary dengue infections antibody responses are largely of IgM class and predominantly directed against type specific determinant. In secondary infections antibodies are largely of IgG class and directed against the antigens of flavivirus group on the dengue virus complex or sub complex.⁵⁹ Three major hemostatic factors appear to be involved in the bleeding diathesis in DHF/DSS, which are;⁶⁰

Vascular injury

Vasculopathy is manifested by petechiae, positive tourniquet test (not included in our study since it is outdated) and leakage of fluid and protein into extravascular spaces. This cause an acute increase in vascular permeability leading to loss of plasma from the vascular compartment, clinically producing pleural effusion, ascites, hemoconcentration, hypoproteinemia and shock. It is said that chemical mediators and histamine generate vascular permeability.

Coagulopathy

Weiss and Halstead et al observed a moderate prolongation of the prothrombin time due to decrease in factors II, V, VII and X.

In WHO collaborative study, platelet counts and average minimum fibrinogen level fell in correlation with severity of illness, while fibrin degradation products (FDP) rose correspondingly.

Suratte et al, Bokish et al and Srichaikul et al confirmed the mild increase in FDP but since euglobulin clot lysis times were normal, the authors concluded that there is evidence of mild to moderate consumptive coagulopathy, but no DIC, also it contributes neither to shock nor to bleeding nor was therapy with heparin justified.

Thrombocytopenia

The cause of thrombocytopenia is controversial, but the possibilities include impaired megakaryocyte production earlier in the disease, platelet injury by virus itself, platelet specific antibodies, immune complexes or disseminated intravascular coagulation (DIC).

Hematological abnormalities⁶⁰

In DF, leukopenia begins on day two of infection, reaching low point on fourth to sixth day along with early absolute neutropenia and lymphopenia, gradually returning to normal by ninth to tenth day with lymphocyte count returning to normal before neutrophils. In contrast DHF/DSS cases where early absolute leukopenia was observed, in a few cases moderate leukocytosis between days four to nine along with early relative lymphocytosis is observed. In both syndromes there occurred marked

degeneration of mature neutrophils and “shift to left” during febrile phases of illness. Atypical or transformed lymphocytes were seen on day fifth of illness, which have large nuclei with fine, homogenous nuclear chromatin and azurophilic cytoplasm. A bone marrow biopsies on fourth day of fever in dengue fever found that the bone marrow was hypocellular with diminished megakaryocytes, diminished erythropoiesis and totally absent granulocytogenesis, on day seven and ten the bone marrow cellularity returns to normal. In DHF/DSS, early in febrile course, the bone marrow is hypocellular with maturation arrest of all elements. At the time of shock or defervescence marrow are usually normocellular or hyper-cellular with an unusual incidence of phagocytic reticulum cells.

Clinical features

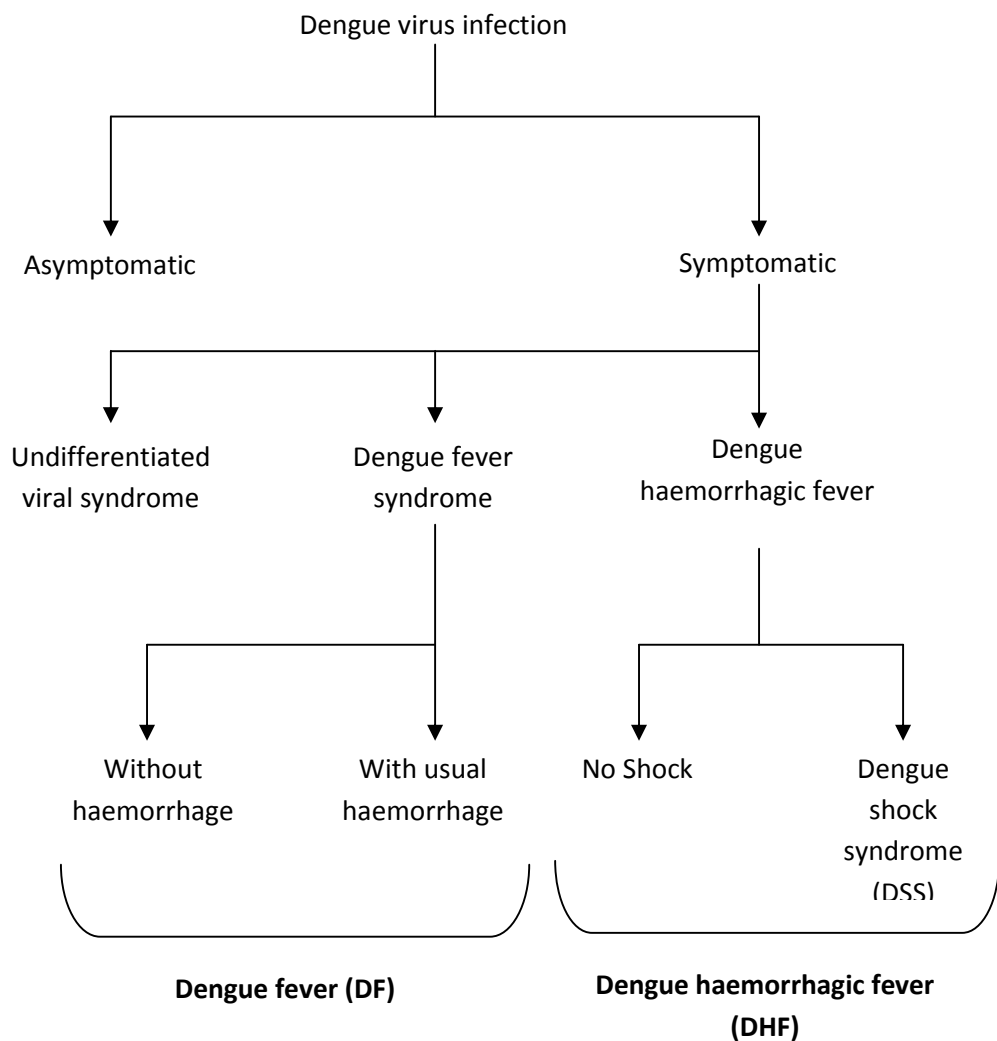
The dengue virus infection may be manifested as asymptomatic to symptomatic disease as classical dengue fever, dengue hemorrhagic fever/dengue shock syndrome.

Dengue fever

Dengue fever is an acute viral infection caused by at least one of the four serotypes (1,2,3 and 4) of dengue virus. All ages and both sexes are susceptible to dengue fever. The illness is characterized by an incubation period of three to ten days. The onset is sudden with chills and high fever, intense headache, muscle pain, joint or bony pain (Break bone fever), retro orbital pain and photophobia. Other common symptoms include weakness, abdominal pain, sore throat and general depression. Fever is usually between 39°C and 40°C, followed by a remission of a few hours to two days (biphasic fever or saddle back fever).

The skin eruptions in 80 percent of case appear during the remission or during second febrile phase, which lasts for one to two days. The rash may be diffuse flushing, mottling or fleeting pinpoint eruptions or the rash may be maculopapular or scarlatiniform.

Figure 5. Spectrum of clinical features of dengue virus infection¹⁴



Some patients with dengue fever have evidence of mucosal or cutaneous bleeding without other evidence of DHF/DSS like hemoconcentration or fluid leak; such patients are classified as dengue fever with unusual bleeding.⁶¹

Fever lasts for about five to seven days after which recovery is usually complete although convalescence may be protracted.

Dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS)

DHF/DSS is a severe form of dengue fever, caused by infection with more than one dengue virus and may be fatal in 40-50% of untreated patients. The disease is confined exclusively to children less than 15 years of age, but due to change in epidemiological trend the disease may occur in adult population.

After an incubation period of four to six days the patient develops clinical features of dengue fever. There may be varying degree of tender hepatomegaly or less commonly splenomegaly. All patients have some degree of haemorrhagic phenomenon like positive tourniquet test, petechial spots, bruising at venepuncture site, bleeding from gums, epistaxis, hematemesis or melena, muscle hematoma, hematuria and rarely intracranial haemorrhage may occur.

Fever may subside after two to seven days. At this stage patient may develop varying degree of peripheral circulatory failure. With progressive peripheral circulatory failure, patient may have sweating, restlessness, cold extremities, pulse pressure gets narrow, blood pressure starts falling ultimately leading to unrecordable blood pressure and irreversible shock.

Unusual manifestations of DHF/DSS include hepatitis, encephalitis and glomerulonephritis.⁵⁹

The 2009 Dengue Case Classification

The 2009 WHO criteria (Fig. 6) classify dengue according to levels of severity: dengue without warning signs; dengue with warning signs (abdominal pain, persistent vomiting, fluid accumulation, mucosal bleeding, lethargy, liver enlargement, increasing haematocrit with decreasing platelets); and severe dengue (dengue with severe plasma leakage, severe bleeding, or organ failure).

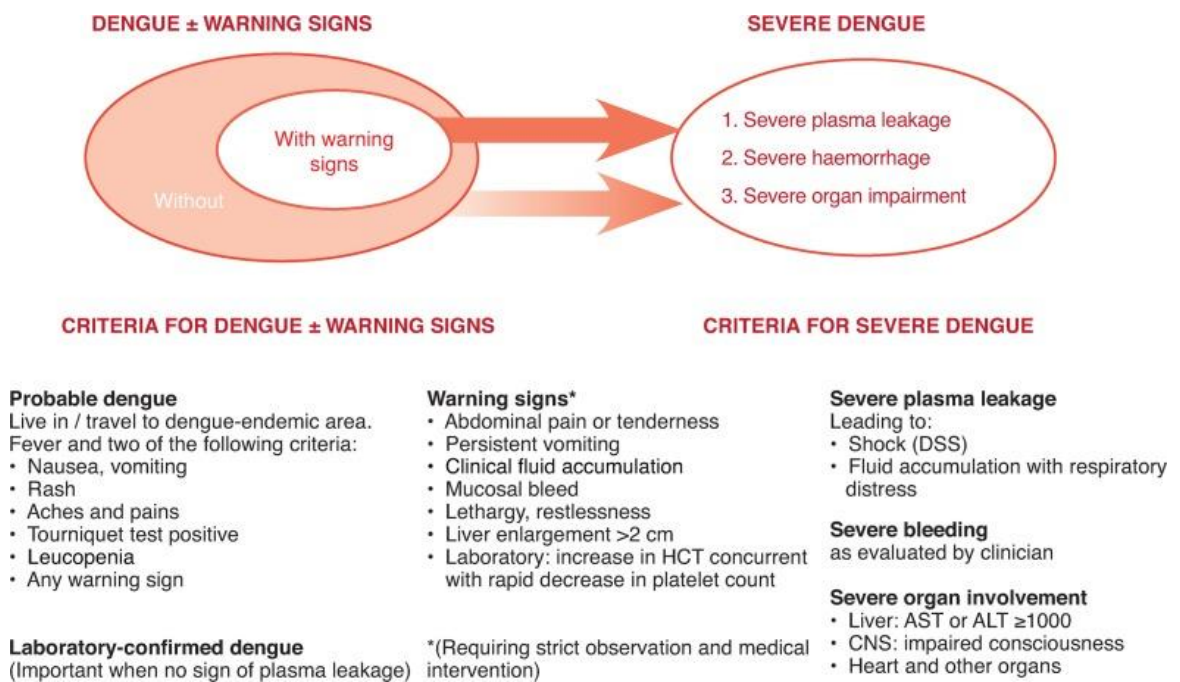


Figure 6. The 2009 revised dengue case classification^{62,63}

Patients who recover following defervescence are considered to have non-severe dengue, but those who deteriorate tend to manifest warning signs.⁶² These individuals are likely to recover with intravenous rehydration. However, further deterioration is classified as severe dengue, though recovery is possible if appropriate and timely treatment is given.⁶²

Comparison of the 1997 and revised classifications⁶⁴

DF/DHF/DSS classification by expert reviewer	Revised classification by expert reviewer				Total
	Not classifiable*	Dengue WS negative	WS positive	Severe dengue	
Not classifiable	23 (8.6%)	57 (21.3%)	159 (59.3%)	29 (10.8%)	268 (100%) (13.7% of all)
DF	7 (0.5%)	551 (41.8%)	684 (51.9%)	75 (5.7%)	1317 (100%) (67.1% of all)
DHF (grades 1 & 2)	2 (0.7%)	8 (2.8%)	240 (83.0%)	39 (13.5%)	289 (100%) (14.7% of all)
DSS (DHF grades 3 & 4)	0	0	12 (13.6%)	76 (86.4%)	88 (100%) (4.5% of all)
Total	32 (1.6%)	616 (31.4%)	1095 (55.8%)	219 (11.2%)	

However, problems with the use of the revised classification have also been noted. Additional training for healthcare workers and dissemination of information may be required to remedy any confusion over the changes to the system.⁶⁴

The 1997 WHO case classification system for dengue was revised because of differences across the broad geographical areas and the age groups affected by dengue. However, the current 2009 WHO classification has yet to be definitively proved to be effective. The question remains, therefore, whether this latest classification requires further modification. A solution may be to incorporate elements from the 2009 classification of severe dengue into the 1997 guidelines, much of which remains relevant for use. This may be resolved by conducting multi-centre,

prospective studies using standardised protocols in Asia and Latin America in a full range of patient age groups.⁶³

Several studies^{13,41,55,65-74} have reported different clinical features and complications of dengue fever. Thrombocytopenia is a very important indicator of prognosis in DHF as was shown by the study conducted in Philippines by Chua MN, et al.⁶⁶ in 1992.

Sharma S et al.⁶⁷ from AIIMS, New Delhi studied 98 adult patients diagnosed to have dengue haemorrhagic fever (DHF) (n=75) and dengue shock syndrome (DS) (n=23) during an epidemic of dengue fever in the middle of August 1996. Fever (100%), body aches (45.9%), abdominal pain (38.7%), purpura (33.6%), epistaxis (32.6%), malena (26.5%), haematemesis (22.4%) and ecchymoses (20%) were commonly present symptoms. ELISA IgM antibodies for serodiagnosis of dengue virus infection was positive in 23 of the 27 patients tested. At the time of admission, 94 patients had a platelet count below 100,000/mm³. Four patients with haemorrhagic manifestations had an initial platelet count of >100,000/mm³. Severe thrombocytopenia (platelet count <20,000 /mm³) was present in 43.8% of the patients. The ultrasound tests showed pleural effusion in 10 of the 12 patients and ascites in five patients tested when they were not clinically evident.

Wali JP et al.⁶⁸ studied 17 consecutive patients of DHF/DSS in New Delhi to assess cardiac function by radionuclide ventriculography, echocardiography and electrocardiography (ECG) during the epidemic of Dengue virus type-2 (DENV-2) in Delhi, India (1996). Fourteen patients were seropositive for Dengue infection. In radionuclide ventriculography study, the mean left-ventricular ejection fraction was 41.69 (5.04% (range 33-49%)) and 7 patients had an ejection fraction less than 40%.

global hypokinesia was detected in 12 (70.59%) patients. In echocardiography, the mean ejection fraction was 47.06 (3.8%). Eight patients had Dengue Shock Syndrome and the mean ejection fraction was 39.63%. Authors concluded that, acute reversible cardiac insult may be noticed in DHF and DSS could be responsible for hypotension/shock.

Kuo CH et al.⁶⁹ studied the impact of dengue on liver function by biochemical tests on 125 male and 145 female patients diagnosed with this disease during an outbreak that extended from November 1987 to December 1988 in Taiwan. Abnormal levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT), bilirubin, alkaline phosphatase, and gamma-glutamyl transpeptidase (GGT) were observed in 93.3%, 82.2%, 7.2%, 16.3% and 83.0% of the patients, respectively. Study concluded that, dengue fever might cause hepatic injury and transaminase elevation similar to that in patients with conventional viral hepatitis. In epidemic or endemic areas, dengue fever infection should be considered in the differential diagnosis of hepatitis.

In a study by Shivbalan S et al.⁷¹ during 2004 on the predictors of spontaneous bleeding in dengue, a platelet count of less than 50,000 was found to be significantly associated with increased risk of bleeding. The other associated predictors of bleeding in the study conducted were prolonged PT, raised AST/ALT and haemoconcentration.

In a study by Venkat Sai PM et al.⁷³ on the role of USG in dengue fever, 100% of the patients showed gall bladder thickening and pericholecystic fluid, 21% had hepatomegaly, 6.25% had splenomegaly and minimal right pleural effusion. In a follow up USG on the 5th day in the same patients, 53% had ascites. Study concluded

that, in an epidemic of dengue, ultrasound features of thickened gall bladder wall, pleural effusion and ascites should strongly favour the diagnosis of dengue fever.

Recently, Kumar A et al.⁵⁵ in his record-based study conducted in a coastal district of Karnataka to study the clinical manifestations, trend and outcome of all confirmed dengue cases admitted in a tertiary care hospital assessed the laboratory confirmed cases from 2002 to 2008 from Medical Records Department (MRD). Of the 466 patients, the most common presentation was fever 462 (99.1%), followed by myalgia 301 (64.6%), vomiting 222 (47.6%), headache 222 (47.6%) and abdominal pain 175 (37.6%). The most common hemorrhagic manifestation was petechiae (67.2%). Of the 66 (14.1%) patients who developed clinical complications, 22 (33.3%) had ARDS and 20 (30.3%) had pleural effusion.

More recently Karoli R et al.⁷⁴ in their cross-sectional study at Lucknow during the monsoon and post-monsoon seasons in the year 2010 on 356 patients with suspected dengue fever found 138 (39%) had serologically confirmed dengue infection. Out of this Ninety-six (70%) patients had classical dengue fever while 42 (30%) had dengue hemorrhagic fever. The most common symptoms were headache (105, 76%), abdominal pain (87, 63%), vomiting (80, 58%), rash (36, 26%) and cutaneous hypersensitivity (22, 16%). Hemorrhagic manifestations were present in 55 (40%) patients. Notably, 14% of patients had neurological involvement and 4% had acute hepatic failure. Study concluded that, dengue infection had varied and multi-systemic manifestations that can go unrecognized.

Also there is high index of suspicion of the various atypical clinical presentations involving various organs / systems which include;⁴¹

- Neurological manifestations - Encephalopathy, acute motor weakness, seizures, neuritis, Guillain Barre syndrome, hypokalemic paralysis acute viral myositis, acute encephalitis;
- Hepatic involvement - Acute liver failure, hepatic encephalopathy, hepatomegaly, jaundice and petechial rashes;
- Myositis - Acute myositis, pure motor quadriplegia;
- Cardiac involvement - Acute reversible cardiac insult, sinoatrial block and atrioventricular dissociation;
- Lupus erythematosus (systemic) - Abnormal immune response leading to systemic lupus erythematosus;
- Ocular complications & uveitis - Unilateral blurring of inferior visual field;
- Acute renal dysfunction - Renal dysfunction, acute kidney injury; Acute inflammatory colitis such as Lower gastrointestinal bleeding and acute inflammatory colitis;
- Cutaneous manifestations - Maculopapular/morbilliform eruption followed by ecchymotic, petechial, and macular/scarlatiniform eruption, Confluent erythema, morbilliform eruptions, and haemorrhagic lesions;
- Kawasaki disease - Young child developed Kawasaki disease later in disease and Bone marrow haemophagocytosis associated with nasal bleeding and pancytopenia

Physiopathology of dengue hemorrhagic fever⁷⁵

The hemorrhagic form of dengue is rare and affects almost exclusively patients with a prior episode, suggesting a physiopathology associated with an exacerbated immune response mediated by heterologous antibodies. Increases in TNF, IL-2, and soluble CD8 are suggestive of hyperactivation of memory CD4 and CD8 cells. There is evidence of overexpression of Fc receptors and class I and II MHC antigens, as well as a serum increase of several inflammatory mediators, as a result of endothelial and mononuclear cell lysis. The result of the immune over-response is a combination of vasculopathy and consumption coagulopathy. The hemorrhagic diathesis in dengue is caused by vasculopathy, thrombocytopenia, and mild coagulopathy, which are responsible for skin and mucous membrane bleeding³. The greater vascular fragility is probably a result of the direct action of the virus, which would occur as early as the viremic or initial febrile phases.

Thrombocytopenia and platelet disorders

As to platelets, there may be thrombocytopenia and platelet disorders. Thrombocytopenia may be secondary to decreased platelet production by the bone marrow, as well as increased peripheral destruction of platelets. It has already been observed that during the acute febrile phase of dengue hemorrhagic fever, bone marrow is markedly hypocellular, with a drop in the production of all cell lines. These findings were later shown to result from direct action of the virus on the medullary stroma and on the hematopoietic progenitor cells. Two days before the defervescence phase, bone marrow hypercellularity is noted, with an enhanced production of precursor cells of the three medullary cell lines. Hemophagocytosis is another possible explanation for the reduced platelet count, which can also occur due to

immune destruction (IgM class antiplatelet antibodies and dengue-specific antibodies). Platelet counts return to normal within 7 to 10 days after the defervescence phase.⁷⁵

Alterations in platelet function are also described; these are evidenced by adenosine diphosphate (ADP)-induced platelet hypoaggregation, a drop in the secretion of intra-platelet ADP, and a rise in plasma concentrations of β -thromboglobulin and platelet factor-4. These findings are consistent with *in vivo* platelet activation resulting from activation by immune complexes. Platelet function resumes its normal conditions 2 to 3 weeks after the initial convalescence period.⁷⁵

Alterations in coagulation

During the febrile period, variable reductions are observed in the different coagulation factors, such as fibrinogen, factor V, factor VIII, factor IX and factor X, besides antithrombin and α_2 -antiplasmin. These changes explain the discreet prolongation in prothrombin time and activated partial thromboplastin time. Elevations in the concentrations of fibrinogen/fibrin (FDP) degradation products and D5-dimer have also been described.⁷⁵

Due to these alterations in hemostasis, the use of acetylsalicylic acid, non-hormonal anti-inflammatory agents, and large quantities of volume expanders (Dextran 40 and Haemacel) is considered as risk factors for bleeding.⁷⁵

Immunity and inflammation

The mechanisms involved in the development of severe dengue hemorrhagic disease are not fully understood, but it is suggested that a secondary infection induced by another dengue serotype is the main risk factor for dengue hemorrhagic fever and

dengue shock syndrome. Cross-reactive non-neutralizing antibodies from a previous infection bind to the new serotype, increasing capture by monocytes and macrophages, thus resulting in the amplification of the cytokine cascade and activation of the complement. However, as only 2% to 4% of individuals with a second infection develop the severe form of the disease, the antibody-dependent increase alone can not explain the whole process. Significant differences in antibody, cytokine, and T-cell responses are observed between patients with the non-complicated form of the disease and those with the complicated forms.⁷⁵

Monocytes, B lymphocytes, and mastocytes infected by the dengue virus produce different cytokines, and some authors show that the largest increases in concentrations of TNF- α , IL-2, IL-6, and interferon (IFN)- γ take place during the first 3 days of the disease, followed by the appearance of IL-10, IL-5 and IL-4. Patients with the hemorrhagic form of the disease present larger concentrations of TNF- α , IL-6, IL-13, IL-18, and cytotoxic factor, and these cytokines are involved in the increased vascular permeability and shock that occur during the infection. Additionally, by producing T CD4⁺ cells, the cytotoxic factor induces macrophages to produce IL-1 α , TNF- α , and IL-8. Concentrations of IL-6 (of endothelial and mastocyte origin) are higher in patients with shock and dengue hemorrhagic fever. The highest levels of TNF- α and IL-10 correlate with hemorrhagic manifestations and thrombocytopenia, respectively. IL-10 also reduces platelet function and contributes to dengue platelet defects.⁷⁵

There is much evidence linking inflammation and coagulation, and the main interfaces for this are the tissue factor (TF) pathway, the C-protein system, and the fibrinolytic system. Proinflammatory cytokines can affect all these coagulation

mechanisms, whereas activated coagulation proteases, physiological anticoagulants, or components of the fibrinolytic system can modulate inflammation through specific cell receptors.⁷⁵

The main inflammatory mediators involved are IL-6, in coagulation activation, and TNF- α and IL-1 in physiological anticoagulant regulation. Several studies demonstrate the importance of IL-6 in the induction of TF expression in many cells, such as mononuclear cells, leading to systemic activation of coagulation. Once TF is expressed, the coagulation cascade is triggered, as well as the formation of enzymatic complexes on a phospholipid surface which, ideally, is presented by the platelets. During the inflammatory process, platelets can be directly activated by endotoxins, thrombin, and inflammatory mediators, such as the platelet activating factor. By expressing P-selectin, the activated platelets mediate platelet adhesion to the endothelium and leukocytes. The binding of activated platelets to neutrophils and mononuclear cells induces activation of nuclear factor κ B, thus increasing the expression of TF in monocytes. During the acute inflammatory process, concentrations of antithrombin are significantly decreased due to the reduced synthesis, degradation by neutrophil elastase released from activated neutrophils, and consumption. The C-protein system is also blocked, as the endothelial expression of thrombomodulin is reduced by the action of TNF- α and IL-1 β . TNF- α and IL-1 β also have a role in regulating plasminogen inhibitors and activators. Cytokines induce secretion of tissue plasminogen activator (tPA) and urokinase-type plasminogen activator (uPA) from their storage sites in endothelial cells. However, this increase in fibrinolytic activation is counterbalanced by a delayed and sustained rise in Plasminogen activator inhibitor-1(PAI-1).⁷⁵

Atypical manifestations of dengue

The endothelium is the target of the immunopathological mechanisms in dengue and DHF. The hallmark is vascular permeability and coagulation disorders. These mechanisms can explain varied systemic involvement.⁷⁶

As the spread of dengue and dengue haemorrhagic fever is increasing, atypical manifestations are also on the rise, although they may be under reported because of lack of awareness. The endothelium is the target of the immunopathological mechanisms in dengue and DHF. The hallmark is vascular permeability and coagulation disorders. These mechanisms can explain varied systemic involvement.⁷⁶

There should be a high index of suspicion of the various atypical clinical presentations involving various organs / systems which include;⁴⁰

- Neurological manifestations - Encephalopathy, acute motor weakness, seizures, neuritis, Guillain Barre syndrome, hypokalemic paralysis, acute viral myositis, acute encephalitis;
- Hepatic involvement - Acute liver failure, hepatic encephalopathy, hepatomegaly, jaundice and petechial rashes;
- Myositis - Acute myositis, pure motor quadriplegia;
- Cardiac involvement - Acute reversible cardiac insult, sinoatrial block and atrioventricular dissociation;
- Lupus erythematosus (systemic) - Abnormal immune response leading to systemic lupus erythematosus;
- Ocular complications & uveitis - Unilateral blurring of inferior visual field;
- Renal complications - Renal dysfunction, acute kidney injury;

- Gastrointestinal Complications- such as Lower gastrointestinal bleeding and acute inflammatory colitis;
- Cutaneous manifestations - Maculopapular/morbilliform eruption followed by ecchymotic, petechial, and macular/scarlatiniform eruption, confluent erythema, morbilliform eruptions, and hemorrhagic lesions;

ACUTE KIDNEY INJURY IN DENGUE FEVER

Several forms of renal involvement have been identified in patients with dengue, including elevation of the serum creatinine level, AKI, acute tubular necrosis, hemolytic uremic syndrome, proteinuria, glomerulopathy and nephrotic syndrome.^{77,78,79}

Several mechanisms have been proposed to account for the etiopathogenesis of dengue fever-induced AKI, including direct action by the virus, hemodynamic instability, rhabdomyolysis, hemolysis and acute glomerular injury.⁸⁰ While none of the available evidence patently favors any such mechanisms at the expense of the others, often two or more mechanisms coexist simultaneously in the same patient.

Virus action on the renal tissue

Viral infection-induced renal injury might be due to a direct cytopathic effect of the viral protein on the glomerular and tubular cells, an *in situ* immune-mediated mechanism triggered by viral antigens bound to glomerular structures, tissue injury caused by immune complexes composed of viral antigens and antiviral antibodies and

damage caused by inflammatory mediators released in response to the glomerular or tubular cytopathic effects of the viral antigens.⁸¹

Analyses of autopsies or biopsies of human cells infected with the dengue virus using immunohistochemical and *in situ* hybridization techniques have detected viral antigens in the tubular epithelial cells.⁸²⁻⁸⁴

Jessie et al.⁸⁵ analyzed tissue samples of rats infected with DEN-1 and did not find viral ribonucleic acid (RNA) in the samples, which suggests that viral replication does not occur in the renal tissue.

Hemodynamic instability

Dengue causes an intense inflammatory process that involves the release of inflammatory cytokines, activation of the complement system and platelets, and endothelial injury, which results in increased vascular permeability with a consequent loss of intravascular fluid. This process might cause hemodynamic instability and even shock, resulting in AKI due to a reduction of renal perfusion and acute tubular injury.⁸⁰

In a retrospective study of 223 patients with dengue confirmed by serological testing, the occurrence of AKI was associated with a higher frequency of hypotension and sepsis and the need for inotropic drugs.²² In nearly 80% of the cases of dengue-induced AKI that have been described in the literature, shock or hypotension are mentioned.^{24,26-28,30,80} However, the literature also includes reports of the occurrence of AKI in patients with dengue without hemodynamic instability.^{29,85,86}

Rhabdomyolysis

Although rhabdomyolysis is considered a rare complication of dengue, more recent data are conflicting. Histological abnormalities in kidney biopsy samples, muscle weakness, myalgia and elevated serum creatine kinase (CK) levels have been described with variable frequencies in different populations of dengue patients.⁸⁰ The pathogenesis of dengue-associated rhabdomyolysis has not been well elucidated. The muscle damage might be caused by direct viral invasion, as some *in vitro* studies have shown,⁸⁷ or mediated by myotoxic cytokines, such as tumor necrosis factor.⁸⁸ Muscle biopsy samples of patients with dengue were found to exhibit a range of abnormalities from inflammatory infiltrates to areas of myonecrosis.⁸⁹

Rhabdomyolysis is a well-known cause of AKI; it causes renal damage by intrarenal vasoconstriction, direct tubular injury and/or tubular obstruction.⁹⁰ Six cases of dengue with AKI and rhabdomyolysis are reported in the literature.^{23,80,86} All of the patients had elevated CK levels and four exhibited myoglobinuria. Regarding the clinical symptoms, five patients exhibited myalgia and oliguria; three survived and one died (the outcome in one case is unknown). A biopsy was performed in only one case, which showed histological findings characteristic of acute tubular necrosis, and myoglobin deposits were detected in the kidney tubules by immunohistochemical analysis.⁸⁶ However, the literature also includes reports of cases of dengue with rhabdomyolysis and a striking elevation of the CK levels, but without AKI.⁹¹⁻⁹³ Possibly, in addition to rhabdomyolysis, hemodynamic instability, acidosis and aciduria are also required for AKI to develop in dengue patients.⁸⁰

glomerulonephritis

The glomeruli might also be affected by dengue. Self-limited proteinuria that disappears together with the resolution of disease occurs in up to 74% of cases.⁷⁷ Proteinuria seems to be associated with the severity of the disease and is elevated in cases of severe dengue, showing a positive correlation with the degree of thrombocytopenia. Analyses of renal biopsy samples from patients with severe dengue and kidney injury have shown IgG, IgM and C3 deposits in the glomeruli, basement membrane thickening and hypertrophy of the mesangial cells in the areas with immune complex deposits.⁸⁰

One case of acute glomerulonephritis and dialysis-dependent AKI in a patient with dengue was recently described. The renal biopsy sample exhibited mesangial proliferation with mesangial IgA-dominant immune complex deposits and acute tubular necrosis. A repeated biopsy 6 weeks after the clinical recovery of the patient from both dengue and AKI showed reversal of the glomerular changes.⁹⁴ Two probable cases of acute glomerulonephritis were described in patients with dengue (an adult and a child). These patients developed AKI, which was accompanied by edema and hypertension, in the absence of hypotension, hemolysis, rhabdomyolysis or use of nephrotoxic drugs. The serum C3 levels were reduced, and the urinalysis results revealed proteinuria and hematuria. All of these changes disappeared following the resolution of dengue.^{30,95} Finally, one case of an antiglomerular basement membrane associated with perinuclear anti-neutrophil cytoplasmic antibodies and crescentic glomerulonephritis in the renal biopsy was diagnosed in a patient with dengue.⁹⁶

Hemolytic uremic syndrome

Dengue fever-induced hemolytic uremic syndrome, characterized by a triad consisting of hemolytic anemia, thrombocytopenia and AKI, has been described in three patients.⁸⁰ One of the cases was subjected to a renal biopsy, which showed thrombotic microangiopathy with arteriolar and glomerular microthrombi, and electronic microscopy revealed the presence of microtubuloreticular structures, suggesting a viral infection.²⁹ All three patients survived with recovery of renal function.⁸⁰

Management

Careful assessment of the warning signs of severe dengue and the patient's blood volume are crucial for the prevention of AKI. Fluid replacement should be performed carefully to avoid overload producing a consequent worsening of intravascular fluid extravasation, which might increase morbidity and mortality. Fluid replacement must be initially performed with crystalloid solutions, while use of colloids should be restricted to cases of unresponsive shock.⁹⁷ The amount of infused fluid should be the minimum needed to stably maintain the hemodynamic conditions until the increased vascular permeability is reversed.⁸⁰

The use of parenteral corticosteroids in cases of severe dengue is controversial, and there are no recommendations for their use in patients with AKI.⁹⁸ Serum CK levels should be monitored to allow for early diagnosis of rhabdomyolysis and the institution of adequate preventive measures.⁸⁶ Once a diagnosis of AKI is established, support treatment should be timely and adequately performed to prevent worsening of the condition.⁹⁹

Renal replacement therapy is currently indicated as conventionally used, because there are no specific recommendations for the proper time to begin treatment, dosing or modality in dengue patients.⁸⁰

Overall, AKI seems to be a frequent complication of severe dengue that increases the morbidity and mortality of the affected patients. Its etiopathogenesis is probably multifactorial, caused by intense systemic inflammation, hemodynamic instability, hemolysis, rhabdomyolysis and acute glomerulitis. Currently, there are no specific recommendations for either conservative treatment or dialysis of patients with dengue, and the effects of AKI on the quality of life, survival and kidney function of survivors are unknown. Prospective studies aimed at establishing the incidence of and risk factors for dengue-associated AKI, its etiopathogenesis, and the best therapeutic approach for patients with dengue and AKI are urgently needed.⁸⁰

Studies on prevalence of acute kidney injury in dengue fever

Acute kidney injury (AKI) is one of the least studied complications of dengue. The majority of previous studies used variable definition of AKI in dengue virus infection (DVI), and included only patients with dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). The Acute Kidney Injury Network (AKIN) definition of AKI can potentially pick up from mild to severe AKI.¹⁰⁰

Furthermore, AKI is a significant, albeit poorly studied, complication of dengue. The data available are heterogeneous and mostly originate from retrospective case series and case reports. The reported frequency of this association exhibits wide

variation in accordance to the particular population being assessed, severity of dengue, criteria used for the diagnosis of AKI and time of evaluation.

Lee IK et al.³² in 2009 reported a retrospective study where acute renal failure (ARF) was found in 10 (3.3%) among 304 hospitalized adults with dengue hemorrhagic fever (DHF), and 6 (60%) of the 10 patients with ARF died, whereas all 294 patients without ARF (controls) survived ($P < 0.001$). Compared with the controls, DHF patients with ARF were found to be significantly older ($p=0.002$) and male predominant ($p<0.001$) and to have higher frequency of previous stroke ($p=0.005$), chronic renal insufficiency ($p=0.046$), dengue shock syndrome (DSS; $p<0.001$), gastrointestinal bleeding ($p<0.001$), and concurrent bacteremia ($p=0.009$), lower hemoglobin ($p=0.003$) and serum albumin levels ($p=0.003$), and higher incidences of prolonged prothrombin time ($p<0.001$), elevated aspartate aminotransferase ($p<0.001$), and alanine aminotransferase levels ($p<0.001$). Multivariate analysis showed DSS (odd ratio = 220.0; $P<0.001$) was an independent risk factor for development of ARF in DHF patients. The high fatality rate in DHF patients complicated with ARF in our series underscore the importance of clinicians' alertness to this potentially fatal complication so that initiation of timely appropriate treatment is possible.

Laoprasopwattana K. et al.³¹ reported a study which examined the outcome of acute kidney injury (AKI) in children with dengue hemorrhagic fever (DHF), the cause(s) of AKI, and the risk of AKI and fatality. The medical records of patients age <15 years during 1989 to 2007 were reviewed. DHF-caused AKI and patients with DHF with no AKI were matched 1:2 by age. DHF-caused AKI was clinically estimated to be 0.9% (25/2893) of admissions, with a high mortality rate of 64.0%.

Risk factors of AKI were DHF grade IV and obesity (odds ratio, 16.9; 95% CI, 4.2 to 68.5, and odds ratio, 6.3; 95% CI, 1.4 to 28.8, respectively). Respiratory failure, hepatic failure, and massive bleeding were complications found in 80.0%, 96.0%, and 84.0% of cases with AKI, respectively. Fatality was more likely in cases with DHF grade IV, oliguric AKI, respiratory failure, or prolongation of prothrombin or activated partial thromboplastin time more than twice that of reference specimens. Among the survivors, none had chronic kidney disease, and serum creatinine levels returned to normal in 32 (1 to 48) days. Authors commented that, Patients with DHF and AKI had a high mortality rate, although those who survived had a full return to normal function within 1 month. DHF grade IV and obesity were the major risk factors of AKI.

In a Brazilian intensive care unit for infectious diseases, dengue was the cause of 4% of the cases of AKI diagnosed using the risk, injury, failure, loss of kidney function and end-stage acute kidney disease (RIFLE) criteria.¹⁰¹

In a more recent study that employed the Acute Kidney Injury Network (AKIN) criteria for diagnosis, the incidence of AKI was 10.8%.²²

Using the AKIN criteria in a retrospective analysis, Khalil et al.³⁴ identified AKI in 13.3% of a series of patients with dengue confirmed by the presence of IgM antibodies, independent of the severity of disease; 64.8% of the patients were in Stage 1, 18.3% Stage 2 and 16.9% Stage 3 of the disease.

In another study, the RIFLE classification was used to investigate the occurrence of AKI in patients with tropical acute febrile disease. The results showed

that the incidence of AKI among patients with dengue upon admission to the hospital was 35.7%.¹⁰²

Retrospective studies of case series of dengue have shown that the development of AKI was associated with a longer hospital stay and higher mortality.^{34,103,104} The limited data available on the kidney histology in dengue fever-induced AKI include tubular abnormalities such as acute tubular necrosis, thrombotic microangiopathy and acute glomerulopathy.^{29,80,85,86,94,103}

METHODOLOGY

This study was done in the Department of General Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi from January 2017 to December 2017.

Study design

The study design was a hospital based cross sectional study.

Study period and duration

The present was conducted for a period of one year from January 2017 to December 2017.

Setting

The present study was carried out in the Department of General Medicine KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi a tertiary care teaching hospital attached to KLE University's Jawaharlal Nehru Medical College, Belagavi.

Source of Data

Patients attending in and/or out patients Department, Department of General Medicine with clinical suspicion of dengue fever confirmed on NS1/IgM were studied.

Sample size

A total of 535 patients with clinical suspicion of dengue fever and confirmed on NS1/IgM fulfilling the selection criteria were selected for the study.

Sampling procedure

The sample size was calculated based on the formula as mentioned below.

$$n = 4 \times p \times q / d^2$$

Where, p = Prevalence of the disease was considered as 14%
based on a recent study by Mallhi TH. et al.¹⁰⁵ (2016)

$$q = 100 - p = 100 - 14 = 86$$

d = Absolute error taken as 10%

Therefore, $n = 4 \times 14 \times 86 / 3^2$

$$n = 535$$

Hence a minimum effect size required to calculate the incidence AKI in patients with dengue fever was 535 and 535 eligible patients were enrolled.

Sampling method

Patients fulfilling the inclusion criteria were enrolled based on convenient sampling.

Selection criteria

Inclusion Criteria

- Patients with clinical suspicion of dengue fever confirmed on NS1/IgM.

Exclusion Criteria

- Known case of diabetic nephropathy, hypertensive nephropathy.
- Known case of chronic kidney disease.
- Infectious Diseases like malaria, enteric Fever.
- Known case of cirrhosis, liver dysfunction.
- History of treatment with NSAIDS.

Ethical clearance

Prior to the commencement, the study was approved by the Institutional Ethics Committee of Jawaharlal Nehru Medical College, Belagavi.

Informed consent

Patients presenting with clinical features of dengue fever and confirmed by NS1/IgM serological tests in the Department of General Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi were evaluated for eligibility based on selection criteria. Those who were eligible were briefed about the nature of the study and a written informed consent was obtained (Annexure–I) prior to the enrollment.

Data collection

Patients were interviewed and demographic data like gender and age were noted. Patients were also interviewed for the detailed clinical presentation, history of associated medical conditions like chronic kidney disease, diabetic nephropathy,

hypertensive nephropathy. A thorough general physical examination was conducted to assess vital parameters, anthropometry and clinical signs followed by systemic examination. All these findings were noted on a predesigned and pretested proforma (Annexure-II).

Investigations

The selected patients underwent following investigations.

- Complete blood count with Platelet count and total count
- Peripheral smear
- Prothrombin time (PT)
- International normalized ratio (INR)
- Activated partial thromboplastin time (aPTT)
- Urine analysis
 - Routine
 - Microscopy (Proteins, casts, red blood cell [RBC], white blood cell [WBC])
- Urine output (per day measurement)
- Serum creatinine and blood urea
- Serum glutamic oxaloacetic transaminase (SGOT)
- Serum glutamic pyruvic transaminase (SGPT)
- Serum electrolytes
 - Serum sodium
 - Serum potassium
 - Serum bicarbonate

- Random blood sugar
- USG abdomen (Gall bladder wall thickness, pleural effusion, ascites)
- Liver function test
- Special tests if required
 - Urine myoglobin
 - Kidney biopsy

Study variables

Severity of dengue fever

According to the criteria from the World Health Organization (WHO), patients who have DF and haemorrhagic manifestations, low platelet count, and objective evidence of leaky capillaries (20% elevation in haematocrit, lower serum albumin, and pleural or other effusions) were classified as having DHF (WHO classification, DHF grades I/II). Those with evidence of circulatory failure (pulse pressure 20 mmHg, hypotension, or frank shock) were classified as having DSS (WHO classification, DHF grades III/IV).¹⁰⁶

Acute kidney injury

Based on the Acute Kidney Injury Network (AKIN) criteria, the patients were evaluated for the diagnosis of AKI based on increase in serum creatinine of 0.3 mg/dL or > 50% developing in < 48 hours or urine output < 0.5 mL/Kg/hr for more than six hours.¹⁰⁰

Outcome

Based on the condition of the patient at discharge the outcome was regarded as improved (Survivor) or expired (Non survivor).

Predictors of AKI

The following predictors of AKI were evaluated;

- Sex
- Age
- Severity of dengue fever
- Other associated complications
- Serositis: The presence of inflammation in serous layers like pleural effusion, ascites, oedematous gall bladder, was regarded as serositis.
- Thrombocytopenia at admission
- Blood urea at admission
- Creatinine at admission
- Laboratory parameters
- Imaging parameters

Statistical analysis

The data obtained was tabulated on Microsoft Excel spreadsheet. The categorical data was expressed as ratios and percentages. The prevalence of acute kidney injury in dengue fever was expressed in terms of percentage. Chi-square test and/or Fisher's exact test was used to find the association between the predictors of development of acute kidney injury. Continuous data was expressed as mean \pm standard deviation (SD) and independent sample 't' test was used to compare the data.

At 95% confidence interval (CI), a probability value ('p' value) of less than or equal to 0.050 was considered to be statistically significant.

RESULTS

This one year hospital based cross sectional study was carried out in the Department of General Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi from January 2017 to December 2017. During the study period a total of 610 adults presented with dengue NS1/IgM tests. Of them, 535 were eligible and 75 were excluded. The consort diagram for screening, selection and enrollment is as shown below.

Figure 1. Consort diagram showing screening and selection of patients

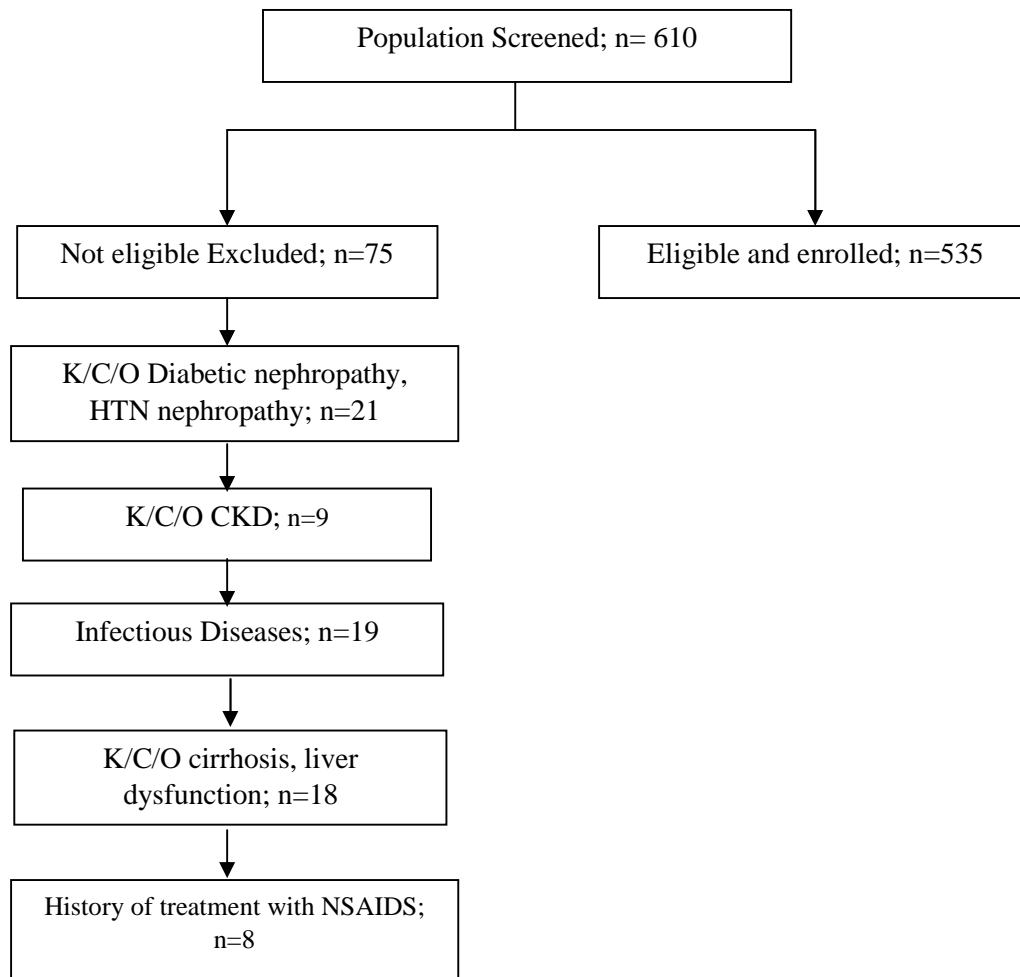
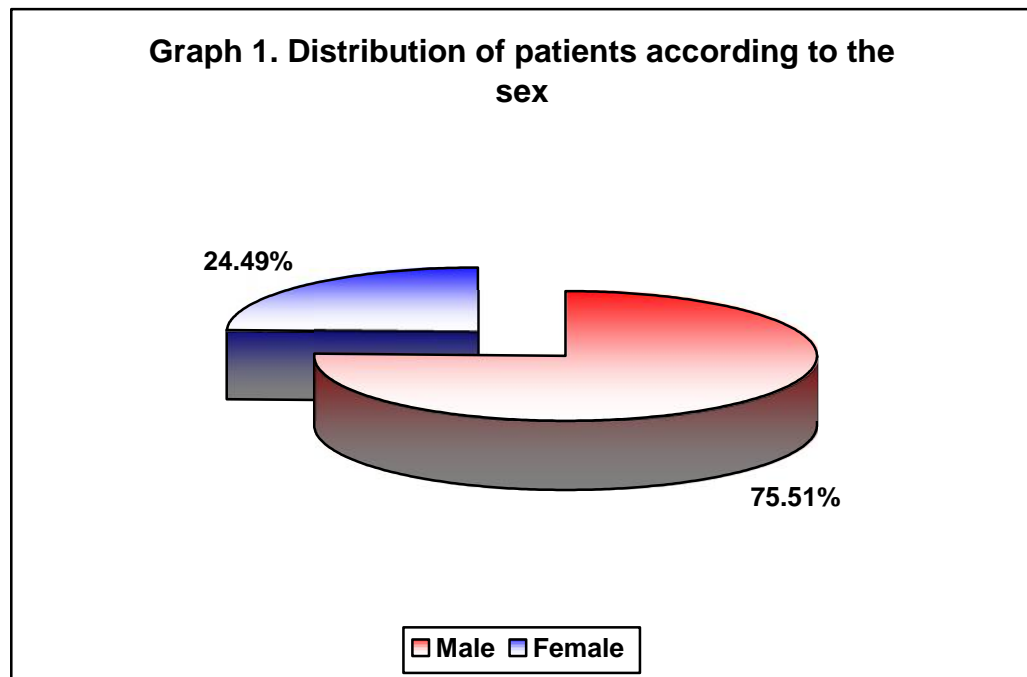


Table 1. Distribution of patients according to the sex

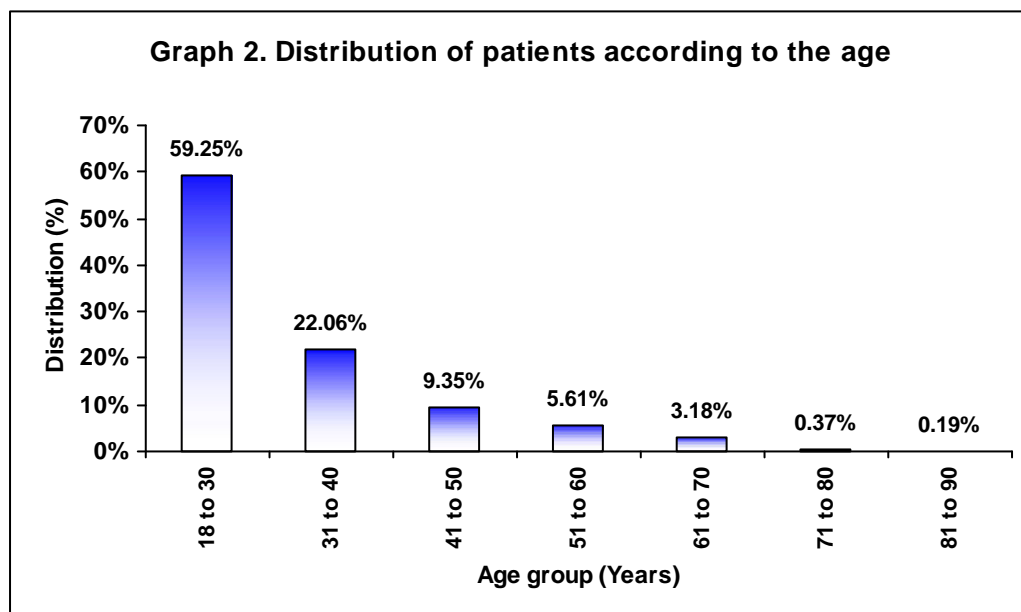
Distribution (n=535)		
Sex	Number	Percentage
Male	404	75.51
Female	131	24.49
Total	535	100.00



In the present study majority of the patients were males (75.51%) and 24.49% were females. The male to female ratio was 3.08:1.

Table 2. Distribution of patients according to the age

Age group (Years)	Distribution (n=535)	
	Number	Percentage
18 to 30	317	59.25
31 to 40	118	22.06
41 to 50	50	9.35
51 to 60	30	5.61
61 to 70	17	3.18
71 to 80	2	0.37
81 to 90	1	0.19
Total	535	100.00

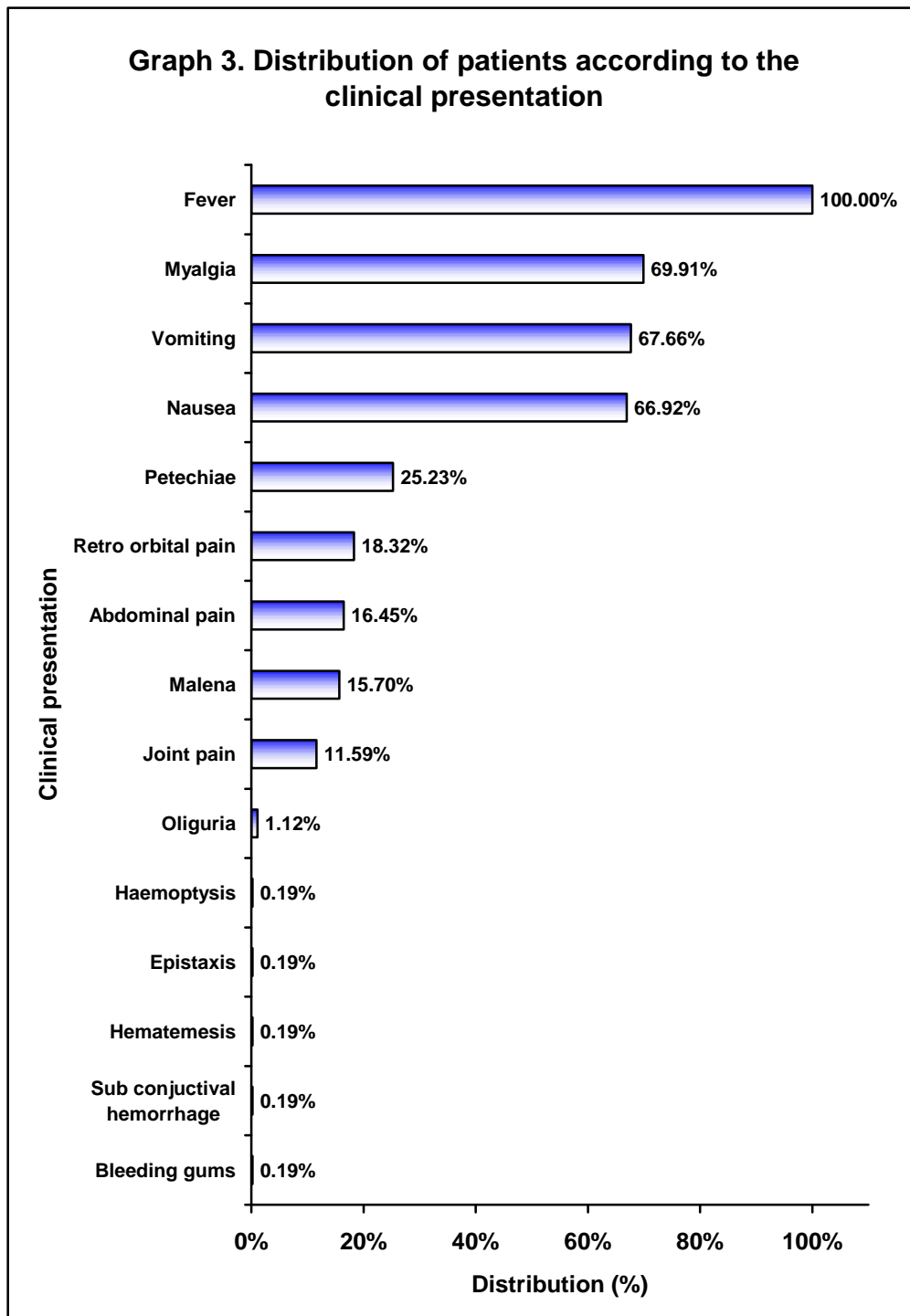


In the present study most of the patients were aged between 18 to 30 years (59.25%) followed by 31 to 40 years (22.06%). The mean age was 31.52 ± 12.47 years and median age was 28 years with range 18 to 84 years.

Table 3. Distribution of patients according to the clinical presentation

Clinical presentation	Distribution (n=535)	
	Number	Percentage
Fever	535	100.00
Myalgia	374	69.91
Vomiting	362	67.66
Nausea	358	66.92
Petechiae	135	25.23
Retro orbital pain	98	18.32
Abdominal pain	88	16.45
Malena	84	15.70
Joint pain	62	11.59
Oliguria	6	1.12
Haemoptysis	1	0.19
Epistaxis	1	0.19
Hematemesis	1	0.19
Sub conjunctival hemorrhage	1	0.19
Bleeding gums	1	0.19

Multiple clinical presentations hence total not shown

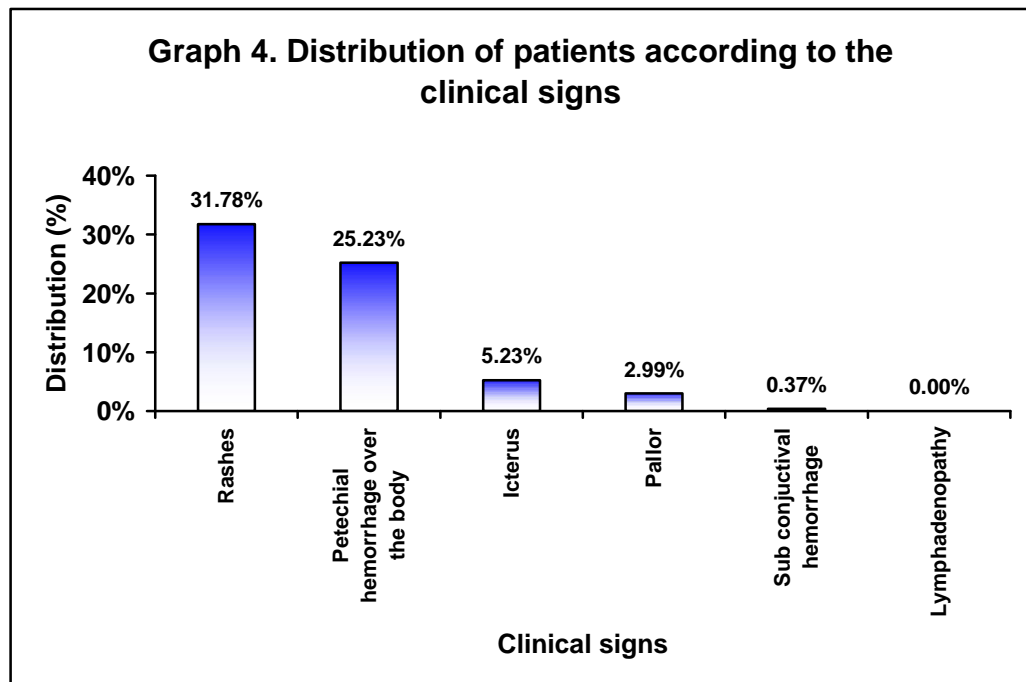


In the present study all the patients presented with fever (100%). The next common clinical presentation was myalgia (69.91%) followed by vomiting (67.66%) and nausea (66.92%). The other uncommon clinical manifestations were as depicted in table 3 and graph 3.

Table 4. Distribution of patients according to the clinical signs

Clinical signs	Distribution (n=535)	
	Number	Percentage
Rashes	170	31.78
Petechial hemorrhage over the body	135	25.23
Icterus	28	5.23
Pallor	16	2.99
Sub conjunctival hemorrhage	2	0.37
Lymphadenopathy	0	0.00

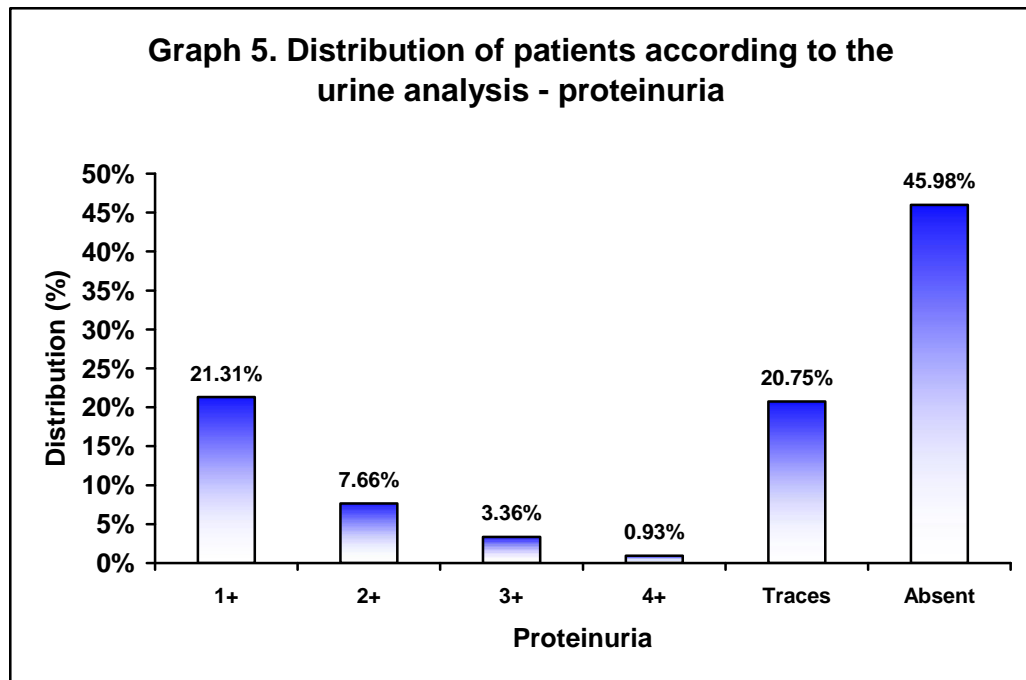
Multiple clinical presentations hence total not shown



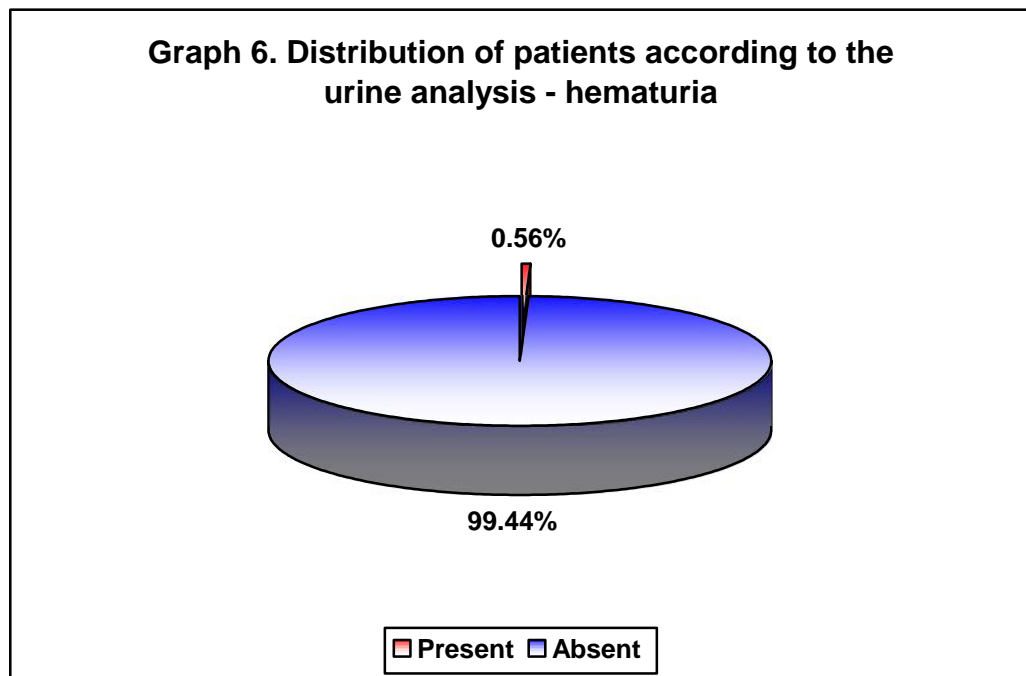
In this study rashes were noted in 31.78% of the patients followed by petechial haemorrhage over the body (25.23%), icterus (5.23%), pallor (2.99%) and few patients had sub conjunctival haemorrhage (0.37%).

Table 5. Distribution of patients according to urine analysis

Urine analysis	Findings	Distribution (n=535)	
		Number	Percentage
Proteinuria	1+	114	21.31
	2+	41	7.66
	3+	18	3.36
	4+	5	0.93
	Traces	111	20.75
	Absent	246	45.98
	Total	535	100.00
Hematuria	Present	3	0.56
	Absent	532	99.44
	Total	535	100.00



In the present study urine analysis revealed 1+ proteinuria in most of the patients (21.31%).



In this study hematuria was noted in 0.56% of the patients.

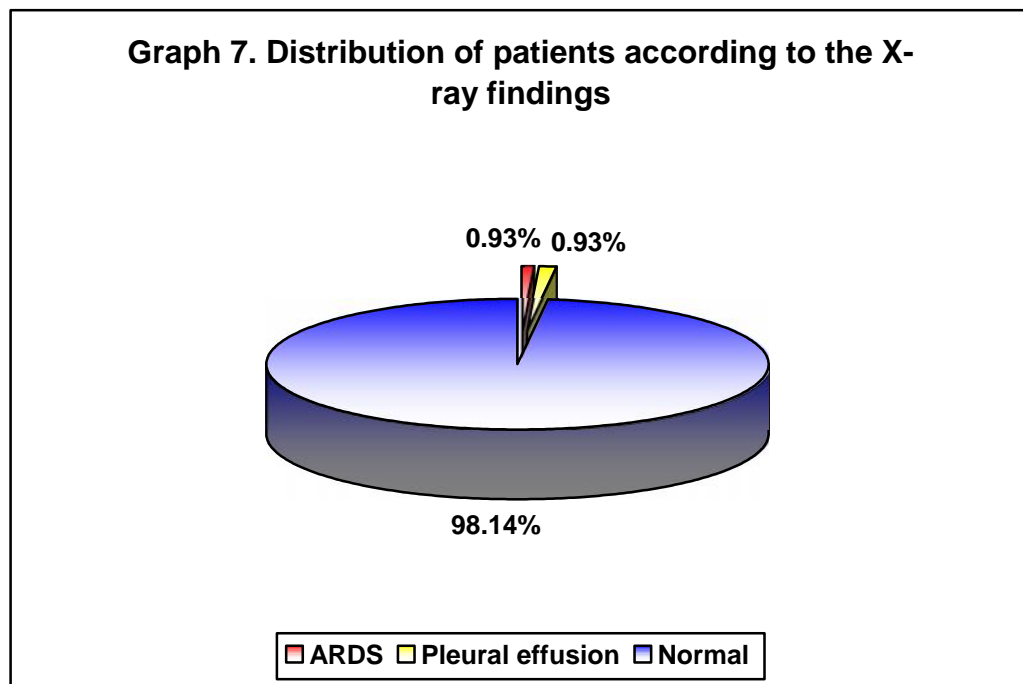
Table 6. Distribution of patients according to total count, SGOT and SGPT

Parameters	Findings	Distribution (n=535)	
		Number	Percentage
Total count (/cumm)	<10,000	468	87.48
	10,000	67	12.52
	Total	535	100.00
SGOT (IU/L)	<32	41	7.66
	32	494	92.34
	Total	535	100.00
SGPT (IU/L)	<33	96	17.94
	33	439	82.06
	Total	535	100.00

In the present study total count, SGOT and SGPT were raised in 12.52%, 92.34% and 82.06% of the patients respectively.

Table 7. Distribution of patients according to the chest X-ray findings

Findings	Distribution (n=535)	
	Number	Percentage
ARDS	5	0.93
Pleural effusion	5	0.93
Normal	525	98.14
Total	535	100.00



In the present study chest X-ray findings revealed both ARDS and pleural effusion in 0.93% of the patients each.

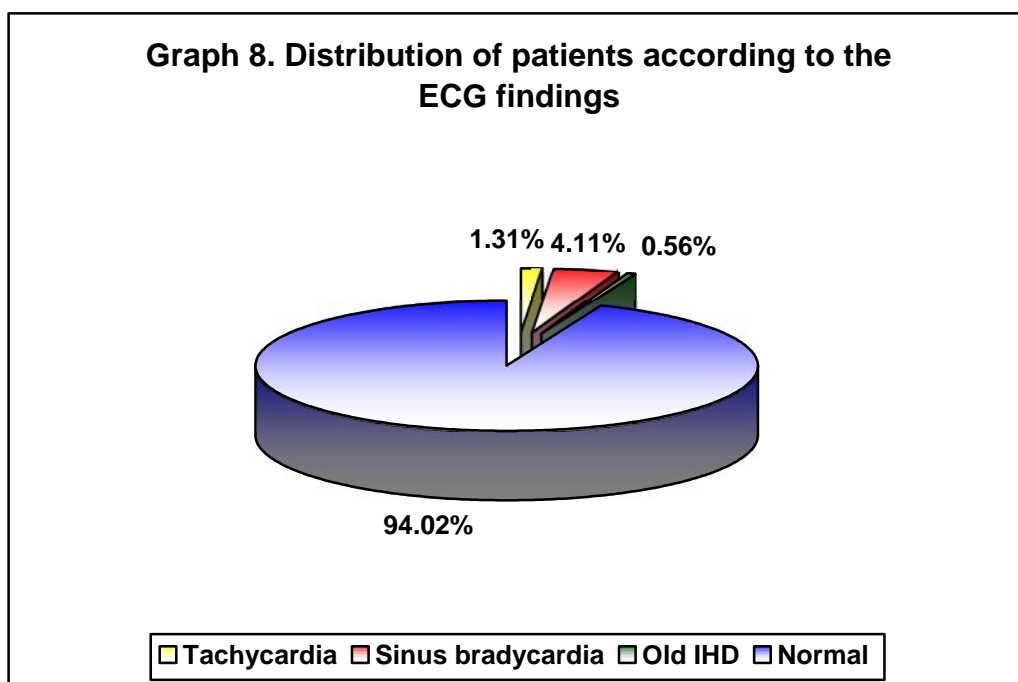
Table 8. Distribution of patients according to USG abdomen

USG parameters	Findings	Distribution (n=535)	
		Number	Percentage
Spleen	Splenomegaly	34	6.36
	Normal	501	93.64
	Total	535	100.00
Gall bladder	Thickened gall bladder	215	40.19
	Normal	320	59.81
	Total	535	100.00
Liver	Hepatomegaly	26	4.86
	Normal	509	95.14
	Total	535	100.00
Ascites	Present	255	47.66
	Absent	280	52.34
	Total	535	100.00

In this study, USG findings revealed splenomegaly in 6.36% of the patients. The other findings noted were thickened gall bladder (40.19%), hepatomegaly (4.86%) and ascites (47.66%).

Table 9. Distribution of patients according to the ECG findings

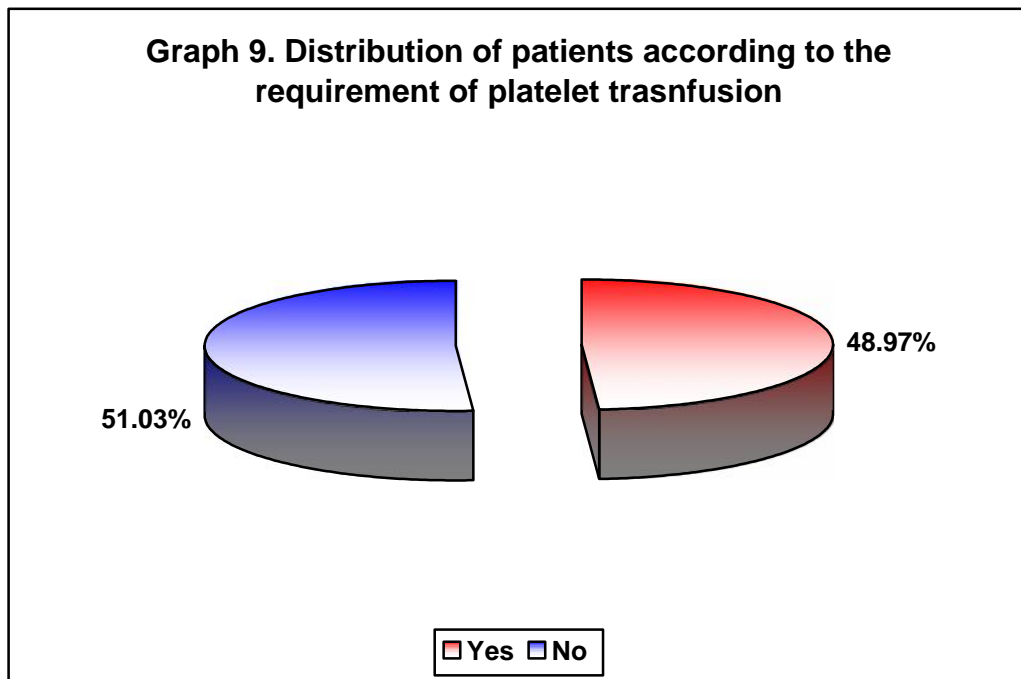
Findings	Distribution (n=535)	
	Number	Percentage
Sinus bradycardia	22	4.11
Tachycardia	7	1.31
Old IHD	3	0.56
Normal	503	94.02
Total	535	100.00



In this study ECG findings revealed sinus bradycardia in 4.11% followed by tachycardia in 1.31%. Old IHD was evident among 0.56% of the patients.

Table 10. Distribution of patients according to the requirement of platelet transfusion

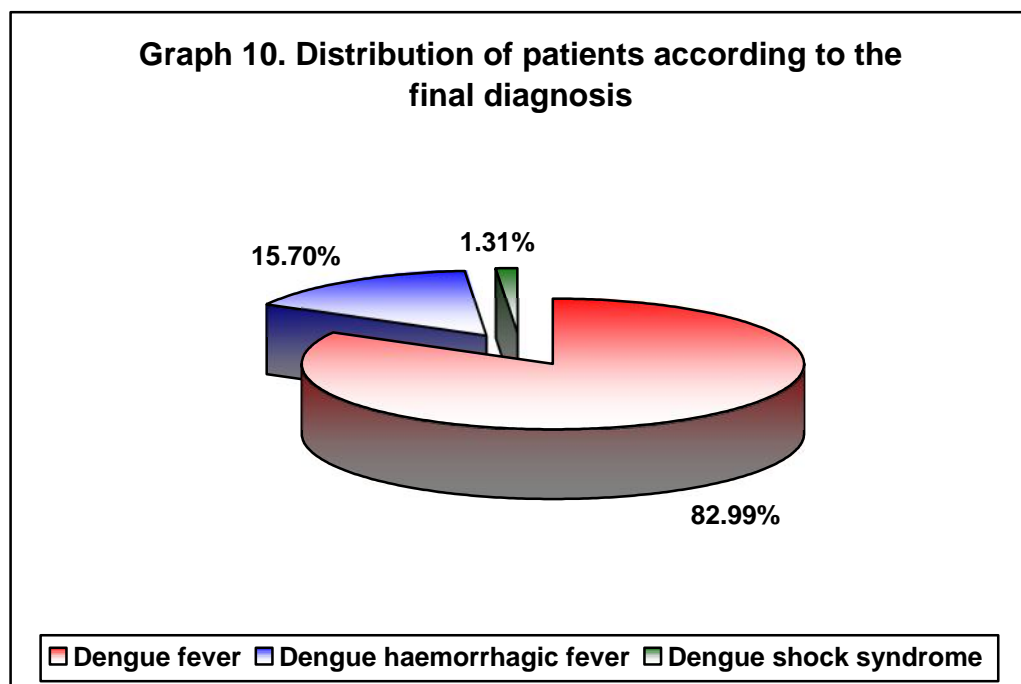
Requirement of platelet transfusion	Distribution (n=535)	
	Number	Percentage
Yes	262	48.97
No	273	51.03
Total	535	100.00



In the present study the requirement of platelet transfusion was noted in 48.97% of the patients.

Table 11. Distribution of patients according to the final diagnosis

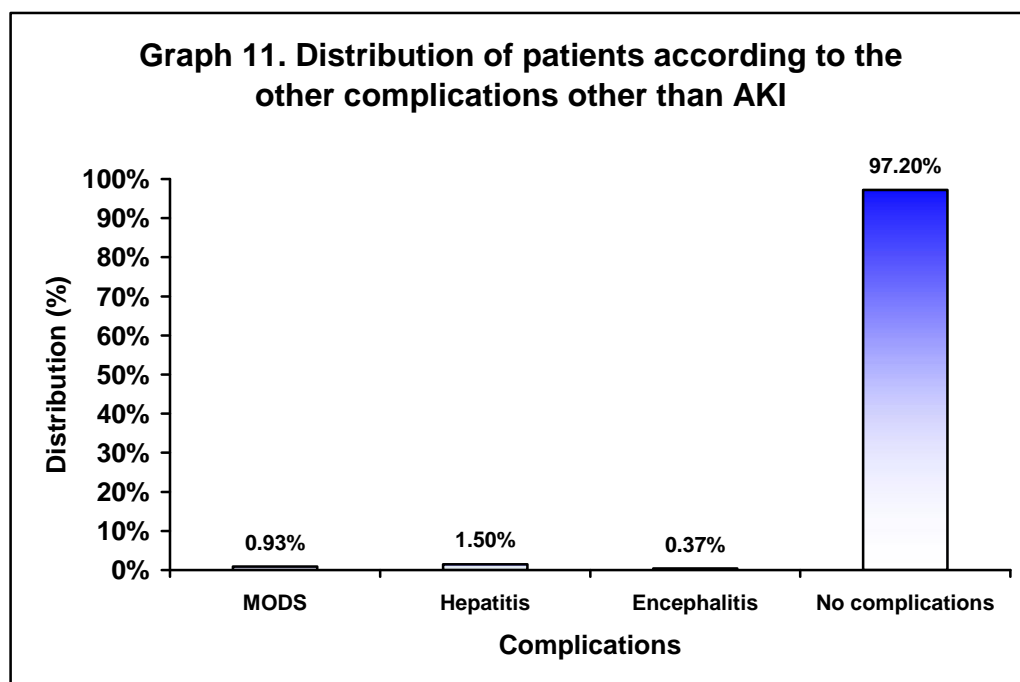
Final diagnosis	Distribution (n=535)	
	Number	Percentage
Dengue fever	444	82.99
Dengue haemorrhagic fever	84	15.70
Dengue shock syndrome	7	1.31
Total	535	100.00



In this study 82.99% of the patients had dengue fever, 15.7% of the patients had dengue haemorrhagic fever and 1.31% of the patients had dengue shock syndrome.

Table 12. Distribution of patients according to the other complications other than AKI

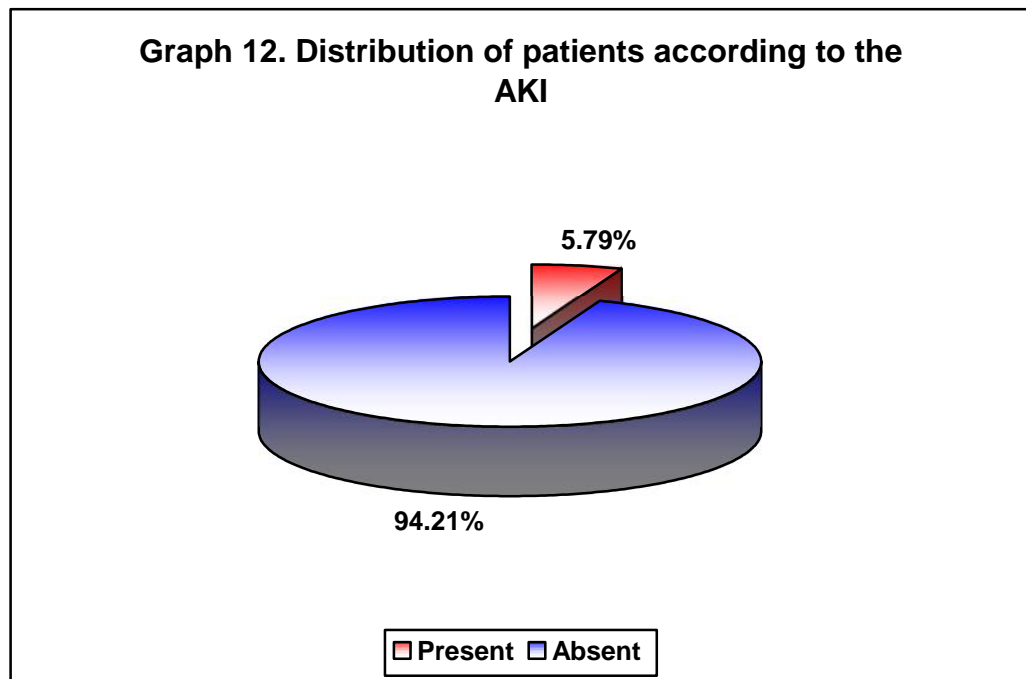
Complications	Distribution (n=535)	
	Number	Percentage
MODS	5	0.93
Hepatitis	8	1.50
Encephalitis	2	0.37
No complications	520	97.20
Total	535	100.00



In the present study other than AKI, hepatitis (1.5%), MODS (0.93%) and encephalitis (0.37%) were the complications noted.

Table 13. Distribution of patients according to the AKI

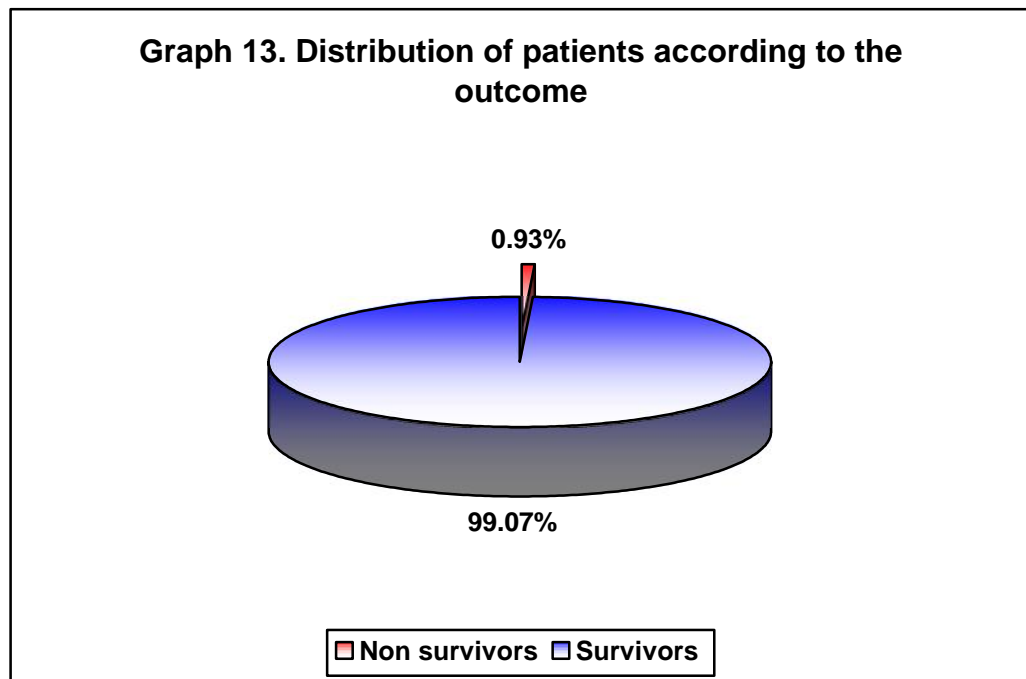
Distribution (n=535)		
AKI	Number	Percentage
Present	31	5.79
Absent	504	94.21
Total	535	100.00



In this study 5.79% of the patients developed AKI.

Table 14. Distribution of patients according to the outcome

Outcome	Distribution (n=535)	
	Number	Percentage
Survivors	530	99.07
Non survivors	5	0.93
Total	535	100.00



In this study 99.07% of the patient improved and discharged and mortality was noted in 0.93% of the patients.

Table 15. Clinical characteristics of the study population

Variables	No of patients (n)	Mean		Median	Range	
		Mean	SD		Min.	Max.
Age (Years)	535	31.52	12.47	28.00	18.00	84.00
PR (bpm)	533	86.57	14.13	90.00	46.00	132.00
Systolic BP (mm Hg)	533	111.74	11.41	110.00	60.00	160.00
Diastolic BP (mm Hg)	533	76.81	7.72	80.00	40.00	100.00
RR (/minute)	535	18.46	2.86	18.00	13.00	40.00
Temperature (⁰ C)	535	98.97	2.80	99.00	38.00	103.00
Hb (mg/dL)	533	14.53	2.18	15.00	5.00	20.00
PCV (%)	535	41.94	6.18	43.00	20.00	58.00
Total count cells (cumm)	535	6059.24	4803.35	4700.00	1300.00	50000.00
Neutrophil (%)	535	55.93	17.57	56.00	2.00	93.00
Lymphocyte (%)	535	34.91	17.34	34.00	2.00	98.00
Monocyte (%)	533	7.08	3.10	7.00	0.00	28.00
Eosinophils (%)	24	4.96	5.23	3.00	0.00	18.00
ESR (mm/hr)	39	17.46	16.48	11.00	2.00	78.00
Platelet count on day 1 (x10 ³)	534	59.29	53.90	40.00	4.00	319.00
Platelet count on day 2 (x10 ³)	531	57.90	47.34	42.00	2.00	302.00
Platelet count on day 3 (x10 ³)	517	71.26	65.19	56.00	3.00	914.00
Platelet count on day 4 (x10 ³)	461	84.03	54.22	72.00	6.00	422.00
Platelet count on day 5 (x10 ³)	356	107.30	68.84	94.00	8.00	602.00
Platelet count on day 6 (x10 ³)	202	117.70	56.61	108.50	25.00	392.00
Platelet count on day 7 (x10 ³)	84	132.05	62.83	119.50	51.00	437.00

Platelet count on day 8 (x10 ³)	13	135.62	36.35	127.00	85.00	222.00
PT/INR (sec)	129	1.18	0.40	1.06	0.39	3.74
aPTT (sec)	100	1.38	0.44	1.37	0.10	3.26
Blood urea (mg/dL)	535	24.78	16.03	20.00	10.00	122.00
Serum creatinine Day 1 (mg/dL)	535	0.98	0.49	0.90	0.10	5.22
Serum creatinine Day 2 (mg/dL)	533	0.92	0.49	0.82	0.10	4.94
Serum creatinine Day 3 (mg/dL)	64	1.41	1.07	1.04	0.38	4.60
Serum creatinine Day 4 (mg/dL)	26	1.62	1.22	1.26	0.37	4.73
Serum creatinine Day 5 (mg/dL)	16	1.17	0.73	1.01	0.08	3.30
Serum creatinine Day 6 (mg/dL)	6	1.31	0.54	1.11	0.86	2.19
Serum creatinine Day 7 (mg/dL)	7	1.16	0.35	0.92	0.84	1.62
Sodium (mmol/L)	535	135.97	4.19	136.00	119.00	148.00
Potassium (mmol/L)	535	4.26	0.56	4.30	2.50	7.50
Bicarbonate (mmol/L)	535	21.67	3.49	22.00	10.00	33.00
Total bilirubin (mg/dL)	535	1.00	1.28	0.63	0.10	10.73
Direct bilirubin (mg/dL)	535	0.59	1.09	0.27	0.01	9.26
SGOT (IU/L)	535	258.67	651.67	104.00	11.00	9065.00
SGPT (IU/L)	535	140.64	277.58	64.00	10.00	2839.00
Serum albumin (mg/dL)	535	3.68	0.50	3.80	1.80	4.90
Alkaline phosphatase (mg/dL)	535	113.21	103.40	84.00	10.00	1240.00
RBS (mg/dL)	535	127.39	56.31	110.00	60.00	595.00
Hospital stay (Days)	535	5.65	2.62	5.00	1.00	33.00

The clinical, platelet, renal and biochemical profile of the study population is as shown in the table 15.

Table 16. Association of AKI with sex

Sex	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
Male	375	92.82	29	7.18	404	100.00
Femle	129	98.47	2	1.53	131	100.00
Total	504	94.21	31	5.79	535	100.00

p = 0.016

In the present study 7.18% of the males developed AKI compared to 1.53% of the females and the difference observed was statistically significant (p=0.016).

Table 17. Association of AKI with age

Age group (Years)	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
18 to 30	309	97.48	8	2.52	317	100.00
31 to 40	112	94.92	6	5.08	118	100.00
41 to 50	44	88.00	6	12.00	50	100.00
51 to 60	29	96.67	1	3.33	30	100.00
61 to 70	8	47.06	9	52.94	17	100.00
71 to 80	1	50.00	1	50.00	2	100.00
81 to 90	1	100.00	0	0.00	1	100.00
Total	504	94.21	31	5.79	535	100.00

p < 0.001

In this study significantly higher number of patients who were aged between 61 to 70 years (52.94%) and 71 to 80 years (50%) developed AKI (p<0.001).

Table 18. Association of AKI with severity of dengue fever

Severity of dengue fever	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
Dengue fever	424	95.50	20	4.50	444	100.00
Dengue haemorrhagic fever	80	95.24	4	4.76	84	100.00
Dengue shock syndrome	0	0.00	7	100.00	7	100.00
Total	504	94.21	31	5.79	535	100.00

p < 0.001

In the present study AKI was diagnosed in all the (100%) patients with DSS compared to DHF (4.76%) and DF (4.5%). The difference observed was statistically significant (p<0.001).

Table 19. Association of AKI with other complications

Other Complications	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
Present	8	53.33	7	46.67	15	100.00
Absent	496	95.38	24	4.62	520	100.00
Total	504	94.21	31	5.79	535	100.00

p < 0.001

In this study the frequency of AKI was significantly high in patents who developed other complications (46.67% vs 4.62%) compared to those who did not develop other complications (p<0.001).

Table 20. Association of AKI with serum creatinine at admission

Serum creatinine (mg/dL)	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
< 0.7	95	97.94	2	2.06	97	100.00
0.7 to 1.20	56	70.89	23	29.11	79	100.00
> 1.20	353	98.33	6	1.67	359	100.00
Total	504	94.21	31	5.79	535	100.00

p < 0.001

In the present study significant association was found between serum creatinine at admission and AKI (p<0.001).

Table 21. Association of AKI with platelet count at admission

Platelet count ($\times 10^3$ /cumm)	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
<20	121	90.98	12	9.02	133	100.00
20 to 49	173	97.74	4	2.26	177	100.00
50 to 99	108	90.76	11	9.24	119	100.00
100 to 150	68	97.14	2	2.86	70	100.00
>150	34	94.44	2	5.56	36	100.00
Total	504	94.21	31	5.79	535	100.00

p = 0.026

In the present study 9.02% of the patients with platelet count < 20,000 /cumm developed AKI compared to other counterparts (p=0.026).

Table 22. Association of AKI with blood urea at admission

Blood urea (mg/dL)	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
<17	163	99.39	1	0.61	164	100.00
17 to 49	15	45.45	18	54.55	33	100.00
> 49	326	96.45	12	3.55	338	100.00
Total	504	94.21	31	5.79	535	100.00

p < 0.001

In this study positive association was found between AKI and blood urea at admission (p<0.001).

Table 23. Association of AKI with serositis

Serositis	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
Present	245	92.45	20	7.55	265	100.00
Absent	259	95.93	11	4.07	270	100.00
Total	504	94.21	31	5.79	535	100.00

p = 0.097

In the present study no association was found between serositis and AKI (p=0.097).

Table 24. Association of AKI with hypotension

Hypotension	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
Present	5	71.43	2	28.57	7	100.00
Absent	499	94.51	29	5.49	528	100.00
Total	504	94.21	31	5.79	535	100.00

p < 0.001

In this study significantly higher of patients with hypotension (28.57% vs 5.49% developed AKI (p<0.001).

Table 25. Association of AKI with mortality

Mortality	AKI				Total	
	Absent		Present		No.	%
	No.	%	No.	%		
Survivor	504	95.09	26	4.91	530	100.00
Non survivor	0	0.00	5	100.00	5	100.00
Total	504	94.21	31	5.79	535	100.00

p < 0.001

In this study significantly higher mortality was noted in patients with AKI (100% vs 0%; p<0.001).

Table 26. Comparison of clinical and laboratory characteristics in patients with and without AKI

Variables	AKI				p value
	Present (=31)		Absent (n=504)		
	Mean	SD	Mean	SD	
Age (Years)	45.20	17.63	30.69	11.63	<0.001
PR (bpm)	97.07	18.45	86.01	13.64	0.004
Systolic BP (mm Hg)	109.50	16.50	111.92	10.99	0.449
Diastolic BP (mm Hg)	73.79	11.92	77.03	7.31	0.165
RR (/minute)	23.13	6.72	18.18	2.17	<0.001
Temperature (⁰ C)	96.46	11.06	99.12	0.93	0.198
Hb (mg/dL)	13.72	3.17	14.58	2.10	0.160
PCV (%)	39.97	7.33	42.05	6.10	0.137
Total count cells (/cumm)	9480.00	6545.09	5855.74	4613.55	0.005
Neutrophil (%)	68.93	17.35	55.11	17.27	<0.001
Lymphocyte (%)	24.93	16.11	35.55	17.22	0.001
Monocyte (%)	5.20	3.10	7.19	3.07	0.002
Eosinophils (%)	2.33	4.04	5.33	5.35	0.331
Platelet count on day 1 (x10 ³)	58.17	51.54	59.41	54.12	0.901
PT/INR (sec)	1.39	0.59	1.11	0.29	0.018
aPTT (sec)	1.53	0.48	1.30	0.41	0.032
Blood urea (mg/dL)	60.33	34.18	22.54	10.88	<0.001
Serum creatinine Day 1 (mg/dL)	2.15	1.20	0.90	0.27	<0.001
Sodium (mmol/L)	135.63	4.44	135.99	4.18	0.672
Potassium (mmol/L)	4.39	0.93	4.25	0.53	0.423
Bicarbonate (mmol/L)	18.93	4.13	21.84	3.39	0.001
Total bilirubin (mg/dL)	3.00	3.03	0.88	0.97	0.001

Direct bilirubin (mg/dL)	2.32	2.66	0.49	0.80	0.001
SGOT (IU/L)	1053.53	2138.23	211.78	383.76	0.040
SGPT (IU/L)	440.17	796.96	123.00	198.75	0.038
Serum albumin (mg/dL)	3.16	0.50	3.71	0.48	<0.001
Alkaline phosphatase (mg/dL)	208.50	234.24	107.45	87.22	0.025
RBS (mg/dL)	130.20	61.34	127.24	56.11	0.798
Hospital stay (Days)	6.60	5.65	5.60	2.32	0.341

In the present study significant differences were noted in patients with and without AKI pertaining to age (45.20 ± 17.63 vs 30.69 ± 11.63 years; $p < 0.001$), pulse rate (97.07 ± 18.45 vs 86.01 ± 13.64 per minute; $p = 0.004$), respiratory rate (23.13 ± 6.72 vs 18.18 ± 2.17 per minute; $p < 0.001$), total count (9480.00 ± 6545.09 vs 5855.74 ± 4613.55 per cumm; $p = 0.005$), neutrophils (68.93 ± 17.35 vs 55.11 ± 17.27 percent; $p < 0.001$), lymphocyte (24.93 ± 16.11 vs 35.55 ± 17.22 percent; $p = 0.001$), monocyte (5.20 ± 3.10 vs 7.19 ± 3.07 percent; $p = 0.002$), International normalized ratio (1.39 ± 0.59 vs 1.11 ± 0.29 ; $p = 0.018$), aPTT (1.53 ± 0.48 vs 1.30 ± 0.41 ; $p = 0.032$), blood urea (60.33 ± 34.18 vs 22.54 ± 10.88 mg/dL; $p < 0.001$), Serum creatinine on day one (2.15 ± 1.20 vs 0.90 ± 0.27 mg/dL; $p < 0.001$), bicarbonate (18.93 ± 4.13 vs 21.84 ± 3.39 mmol/L; $p = 0.001$), total bilirubin (3.00 ± 3.03 vs 0.88 ± 0.97 mg/dL; $p = 0.001$), direct bilirubin (2.32 ± 2.66 vs 0.49 ± 0.80 mg/dL; $p = 0.001$), SGOT (1053.53 ± 2138.23 vs 211.78 ± 383.76 IU/L; $p = 0.040$), SGPT (440.17 ± 796.96 vs 123.00 ± 198.75 IU/L; $p = 0.038$), serum albumin (3.16 ± 0.5 vs 3.71 ± 0.47 mg/dL; $p < 0.001$) and alkaline phosphatase (208.50 ± 234.24 vs 107.45 ± 87.22 mg/dL; $p = 0.025$).

DISCUSSION

Dengue infections may be asymptomatic, may lead to undifferentiated fever (or viral syndromes), dengue fever or DHF. Mild dengue disease is characterized by biphasic fever, several types of skin rash, headache, retro orbital pain, photophobia, cough, vomiting, myalgia, arthralgia, leukopenia, thrombocytopenia and lymphadenopathy, while DHF is an often fatal disease characterized by haemorrhages and shock syndrome. Other common symptoms include sore throat, altered taste sensation, colicky pain and abdominal tenderness, constipation, dragging pain in the inguinal region and general depression.¹⁷

As dengue and DHF are assuming global proportions, more and more atypical presentations appear, which might be under reported because of lack of awareness.¹⁷

This one year hospital based cross sectional study was done in the Department of General Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi from January 2017 to December 2017. During the study period a total of 610 adults presented with dengue NS1/IgM tests. Based on selection criteria, 535 were eligible and 75 were excluded. These patients were evaluated for AKI based on AKIN criteria¹⁰⁰ alongwith the risk factors that lead the development of AKI.

Demographic data

The incidence of dengue is equal in males and females. However, in the present study males (404, 75.51%) were more than females (131, 24.49%) with male to female ratio of 3.08:1. These findings were comparable with a study conducted by Sharma et al.⁶⁷ (1998) who reported male to female ratio of 3:1. Another study

conducted by Agarwal et al.¹⁰⁷ (2010) also showed male preponderance that male to female ratio of 1.9:1.

In the present study age ranged between 18 to 84 years. The common age group was 18 to 30 years (59.25%) followed by 31 to 40 years (22.06%). The mean age was 31.52 ± 12.47 years and median age was 28 years. Dengue affects people of all ages. Our study suggests that DF was widely prevalent among younger age group. In a retrospective study to review the changing epidemiology of the dengue between the years 2002 and 2008 by Chakravarthy A et al,¹⁰⁸ (2012) reported presence of dengue in all the age groups of study population. the mean age noted in the present study was similar to the study from AIIMS by S. Sharma et al.⁶⁷ (1998) who reported the median age as 26.3 years and also similar to the Mexico study by Navarette J.¹⁰⁹ (2005) that is, 26.9 years. These series indicate that the most commonly affected age group is between 20 to 40 years.

Clinical spectrum

In our study all the patients presented with fever (100%). The second common clinical presentation was myalgia (69.91%) followed by vomiting (67.66%) and nausea (66.92%). The other uncommon clinical manifestations were Petechiae (25.23%), Retro orbital pain (18.32%), Abdominal pain (16.45%), Malena (15.7%) and Joint pain (11.59%). However, very few patients (6 patients) presented with Oliguria (1.12%), Haemoptysis (0.19%), Epistaxis (0.19%), Sub conjunctival hemorrhage (0.19%) and bleeding gums (0.19%). Compared to other studies findings were similar but oliguria was seen in our study. The most common clinical sign was rashes (31.79%) followed by petechial haemorrhage over the body (25.23%), icterus (5.23%), pallor (2.99%) and few patients had sub conjunctival haemorrhage (0.37%).

Several studies^{55,56} have reported varied clinical features of dengue fever. Kumar A et al.⁵⁵ (2010) in his retrospective study conducted in a coastal district of Karnataka to study the clinical manifestations, trend and outcome of all confirmed dengue cases admitted in a tertiary care hospital assessed the laboratory confirmed cases from 2002 to 2008 from Medical Records Department (MRD). Of the 466 patients, the most common presentation was fever 462 (99.1%), followed by myalgia 301 (64.6%), vomiting 222 (47.6%), headache 222 (47.6%) and abdominal pain 175 (37.6%). The most common hemorrhagic manifestation was petechiae (67.2%). 22 (33.3%) had ARDS and 20 (30.3%) had pleural effusion. Kalappanavar NK et al.⁵⁶ reported 570 patients admitted to tertiary care hospital of S. S. Institute of medical sciences and research centre, Davangere, Karnataka from June 2009 and May 2010. Among the various clinical features, fever was the most common clinical presentation occurring in all patients on presentation. Other common clinical features were retro orbital pain (61%), flushing in 65% and rashes were seen in 74.8%. In another Indian study from AIIMS by S. Sharma et al,⁶⁷ (1998) fever was found in 100%, abdominal pain in 38%, skin rashes in 36.5%, bleeding tendency in 70%. In the Chennai study by Narayanan M,¹¹⁰ fever was found in 98%, headache in 28%, abdominal pain in 20%, bleeding tendency in 21%. In the Mangalore study by Padabidri VS et al. ¹¹¹ (1995) fever was found in 100%, myalgia in 76% and headache in 48% of patients. The findings of our study were similar to the other Indian studies.

Imaging

Chest X-ray

In the present study pleural effusion and ARDS were the findings seen on chest X-ray in 0.93 and 0.53% of the patients respectively. On the other hand Kumar

A et al.⁵⁵ (2010) in his retrospective study reported that, ARDS (4.72%) and pleural effusion (4.29%).

Ultrasound abdomen

In this study, ascites (47.66%) and thickened gall bladder (40.19%) were the common findings noted on ultrasound abdomen followed by splenomegaly (6.36%), and hepatomegaly (4.86%). On the other hand Narayanan M. et al.⁷⁸ (2002) showed hepatomegaly in 60% and a study in Delhi by Tripathi BK et al.¹¹² (1998) in 23% of the cases. Similarly, AIIMS study by Sharma et al.⁶⁷ (1998) showed splenomegaly in 8.2% of the patients, while a study in Delhi by Tripathi BK et al.¹¹² (1998) during the 1996 outbreak showed splenomegaly in 5.71% of cases, and the Chennai study by Narayanan M. et al.⁷⁸ (2002) in 11% of the cases. Gallbladder wall thickening in dengue fever may be due to decrease in the intravascular osmotic pressure and increase in the vascular permeability.

Laboratory parameters

Urine analysis

In the present study urine analysis revealed more than half of the patients (54.01%) with proteinuria and most of the patients (21.31%) had 1+ proteinuria while hematuria was evident in few of the patients (0.56%). No other previous studies have mentioned urine studies in patients with dengue fever.

Other laboratory parameters

At admission platelet count of < 20000 was noted in 24.85% of the patients and 33% of the patients had platelet count between 20001 to 49999 /cumm that means

nearly half of the patients (57.9%) had low platelet count. The platelet count ranged between 4000 to 319,000 /cumm at admission and the mean was lower than the normal reference range ($59.29 \pm 53.90 \times 10^3$ /cumm) which gradually increase over a period of time that is on day 8 ($135.62 \pm 36.35 \times 10^3$ /cumm) suggestive of improvement. The total cell count was raised in (67 patients, 12.52%) and mean total count was profoundly high (6059.24 ± 48103.35 /cumm) suggestive of infection. Also majority of the patients had higher SGOT (494 patients, 92.34%) and SGPT (439 patients, 82.06%) levels. Also the mean SGOT (258.67 ± 651.67 IU/L) and SGPT (140.64 ± 277.58 IU/L) were very high. A study from Delhi by Sharma et al.⁶⁷ (1998) showed that SGOT and SGPT were deranged in 88.4% and 76.7% of patients respectively.

Severity of dengue fever

In this study majority of the patients (44 patients, 82.99%) were diagnosed to have dengue fever while (84 patients) 15.7% of the patients had DHF and few patients had DSS (7 patients, 1.31%). These findings were consistent with a cross-sectional study by Karoli R et al.⁷⁴ (2012) from Lucknow during the monsoon and post-monsoon seasons in the year 2010 on 356 patients with suspected dengue fever found 138 (39%) had serologically confirmed dengue infection. Out of this Ninety-six (70%) patients had classical dengue fever while 42 (30%) had dengue hemorrhagic fever.

Management

In the present study platelet transfusion was required by 48.97% of the patients which was in accordance to the low platelet count at admission in more than half of the study population as discussed earlier.

Complications

In the present study other than AKI most of the patients had serositis (49.53%). The other uncommon complications noted were hepatitis (1.5%), hypotension (1.30%), MODS (0.93%) encephalitis (0.37%).

Outcome

In this study majority of the patients improved and discharged (99.07%) while mortality was noted in 0.93% of the patients.

Acute kidney injury

In this study serum creatinine levels were estimated at the time of admission and serial measurement were obtained on day today basis in select cases. The creatinine levels at admission ranged between 0.1 to as high as 5.22 mg/dL but the mean serum creatinine levels were 0.98 ± 0.49 mg/dL and median levels were 0.90 mg/dL suggestive of normal kidney function. Further, more than two third the of the patients (359 patients, 67.10%) had raised serum creatinine levels (>1.20 mg/dL). However based on AKIN criteria,¹⁰⁰ 31 out of 535 patients developed AKI. Hence prevalence of acute kidney injury in dengue fever was 5.79%. Looking the raised serum creatinine level at admission, it may be hypothesized that, every two out of

three patients with dengue fever are likely to present with raised serum creatinine as a consequence of dengue and accordingly are at high risk of developing AKI. This acute nephropathy could be related to prerenal ARF consequent to third space loss of fluid. In a study on acute renal failure associated with dengue by Hommel D. et al.,¹¹³ deranged creatinine was mostly attributed to pre renal ARF.

Spectrum of renal disorders is least studied in dengue infection that varies from mild glomerulonephritis, urinary sedimentations to severe Acute Kidney Injury (AKI).^{8D10} AKI is a complication of DVI which has not been studied much. Based on the limited number of studies available in the literature, the reported prevalence of AKI ranges between 0.9% to as high as 15.8%.¹⁰⁵ Though the prevalence of AKI observed in the present study (5.79%) was well within this range, it was low compared to the studies by Vakrani GP. et al.¹¹⁴ (2017), Mallhi TH et al.¹⁰⁵ (2015) and Khalil MAM. et al.³⁴ (2012) but high compared to the studies by Lee et al.³² (2009) Laoprasopwattana et al.³¹ (2010) and Naqvi R.¹¹⁵ (2016). This wide variation observed in the prevalence rate of AKI can be explained by the varied sample size, different study designs and different criterion used to address the definition of AKI.

Comparison of prevalence of AKI with other studies

Study	Country	Study design/size	Year	Prevalence of AKI
Lee K. et al. ¹¹⁶ (2008)	Taiwan	Case series/304 cases	2008	3.9%
Lee et al. ³² (2009)	Taiwan	Case series/304 cases	2009	3.3%
Laoprasopwattana et al. ³¹ (2010)	Thailand	Case series/2893 cases	2010	0.9%
Khalil MAM. et al. ³⁴ (2012)	Pakistan	Case series/532	2012	13.3%
Mehra N. et al. ²² (2012)	India	Case series/233 cases	2012	10.8%
Mallhi TH et al. ¹⁰⁵ (2015)	Malaysia	Retrospective study/667	2015	14.2%
Naqvi R. ¹¹⁵ (2016)	Pakistan	observational study/3525	2016	1.21%
Vakrani GP. et al. ¹¹⁴ (2017)	India	observational study/101	2017	15.8%
Present study	India	Crosssectional study/535	2018	5.79%

There are multiple proposed mechanisms for etiopathogenesis of renal impairment in DVI. Dengue causes capillary leakage and loss of fluid from the intravascular compartment leading to shock which may lead to decreased kidney perfusion and acute tubular necrosis. Possible etiological factors for AKI in DF

include hypotension with either hemolysis or rhabdomyolysis and shock as reported in various case reports.³⁴

Predictors of AKI

Sex predilection

In the present study significantly higher number of males developed AKI compared to females (7.18% vs 1.53%; $p=0.016$). These findings suggest that, male sex is the significant risk factor predisposing to AKI during the course of dengue fever. These findings were in agreement with the study by Khalil MAM et al.³⁴ (2012) and Mallhi TH et al.¹⁰⁵ who reported male gender as risk factor/predictor of AKI in patients with dengue fever.

Age predilection

In this study the prevalence of AKI was high in patients aged between 61 to 70 years (52.94%) 71 to 80 years (50%) compared to the patients who were aged between 18 to 30 years (2.52%), 31 to 40 years (5.08%), 41 to 50 years (12%) and 51 to 60 years (3.33%). The difference observed was statistically significant ($p<0.001$). Also, the mean age in patients with AKI was significantly high compared to those who did not have AKI (45.20 ± 17.63 vs 30.69 ± 11.63 years; $p<0.001$), these finding hypothesize that there is high risk of developing AKI in elderly population who present with dengue fever. Lee IK et al.³² (2009) also showed that, age > 30 years as risk factor/predictor of AKI in patients with dengue fever.

Severity of dengue

In the present study AKI was diagnosed in 7 patients who had DSS (100%) compared to DHF (4 patients, 4.76%) and DF (20 patients, 4.5%) ($p < 0.001$). Out of 7 patients with dengue shock syndrome three patients were aged ≤ 60 years and five out of them expired. All the patients were males. Serositis was noted in five patients. Six patients had complications of them five had MODS and one had encephalitis and hypotension. All the patients three patients who were aged ≤ 60 years expired. In four patients who developed AKI with DHF, all were males, all of them were aged between 31 to 50 years and serositis was noted in three patients and all the patients improved and discharged. Hence it may be postulated that, there is strong association between severity of dengue fever and AKI. Furthermore, patients with dengue shock syndrome are at high risk of developing AKI. Laoprasopwattana et al.³¹ (2010) found DHF grade IV (DSS) as risk factor/predictor of AKI in patients with DF. While, Khalil MAM et al.³⁴ (2012) reported that, presence of severe dengue (DHF/DSS) as risk factor/predictor of AKI.

AKI with Other complications

In this study the frequency of AKI was significantly high in patients who developed complication other than AKI compared to those patients who did not develop other complications that is, nearly half of the patients (7 patients) who developed complications were diagnosed to have AKI (46.67%) while AKI was diagnosed (24 patients) in only 4.62% of the patients who did not develop complications and the difference observed was statistically significant ($p < 0.001$). Similarly higher number of patients with hypotension (28.57% vs 5.49%) developed AKI compared to normotensives ($p < 0.001$). These findings suggest not only strong

association between AKI and complications but also predict development of AKI. However, surprisingly serositis failed to predict AKI in patients with dengue fever as no association was found between serositis and AKI ($p=0.097$). Mehra N. et al.²² (2012) reported high risk of AKI in patients with sepsis, multiple organ dysfunctions (MODs), Khalil MA et al.³⁴ (2012) reported increased risk of AKI with neurological involvements, Lee IK et al.³² (2009) showed increased risk of AKI with co-morbidities (previous shock, chronic kidney disease) and Mallhi et al. showed Multiple organ failure (MOF) as risk factor for development of AKI in DF. Though, in the present study the individual complications were not ascertained for the risk of AKI due to smaller subset of patients with complications, but the findings of this study are in agreement with the other studies by Mehra N. et al.²² (2012), Lee et al.³² (2009), Khalil MAM. et al.³⁴ (2012) and Mallhi TH et al.¹⁰⁵ (2015) which states that presence of complication increases the risk of AKI.

In this study the prevalence of AKI was significantly high in patients who expired (100% vs 0%; $p<0.001$). Hence it be postulated that, patients presenting with dengue fever who develop AKI are at high of mortality and need extensive care and pertinent monitoring. Other studies by Mehra N. et al.²² (2012), Lee IK et al.³² (2009), Khalil MAM. et al.³⁴ (2012), Mallhi TH et al.¹⁰⁵ (2015) and Laoprasopwattana et al.³¹ (2010) also reported higher mortality rates in patients with AKI.

Laboratory parameters

Serum creatinine levels at admission

In the present study majority of the patients (67.10%) presented with raised serum creatinine. Significant association was found between serum creatinine at

admission and AKI ($p < 0.001$). Also the mean serum creatinine levels in patients who were diagnosed to have AKI were significantly high 2.15 ± 1.20 vs 0.90 ± 0.27 mg/dL; $p < 0.001$). However, these findings require further validation due to lack similar data in the literature.

Platelet count at admission

In the present study at admission, platelet count of < 20000 /cumm was noted in 24.85% of the patients and 33% of the patients had platelet count between 20001 to 49999 /cumm that means nearly half of the patients (57.9%) had low platelet count of < 50000 /cumm. Furthermore, significantly higher number of patients (9.02%) of the patients with platelet count $< 20,000$ /cumm developed AKI compared to other counterparts ($p = 0.026$). These findings suggest lower platelet count at admission as a strong predictor of AKI in patients presenting with dengue fever. However, these finding require further validation as the mean platelet count was comparable in patient with (58.17 ± 51.54 /cumm) and without AKI (59.41 ± 54.12 /cumm) ($p = 0.901$). However, these findings require further ascertainment due to lack similar data in the literature.

Blood urea levels at admission

In this study raised blood urea was evident in majority of the patients (63.17%). There was positive association between AKI and blood urea at admission ($p < 0.001$). Similarly, the mean blood urea level were profoundly high in patient with AKI compared to those who did not develop AKI (60.33 ± 34.18 vs 22.54 ± 10.88 mg/dL; $p < 0.001$). These finding suggest that, increased blood urea hints the treating physician about development of AKI in patients with dengue fever. Elevated blood

urea nitrogen was risk factor for the development of AKI In the study by Mallhi TH et al.¹⁰⁵ (2015)

Other laboratory parameters

In the present study total count (9480.00 ± 6545.09 vs 5855.74 ± 4613.55 per cumm; $p=0.005$), neutrophils (68.93 ± 17.35 vs 55.11 ± 17.27 percent; $p<0.001$), monocyte (7.19 ± 3.07 vs 5.20 ± 3.10 percent; $p=0.002$), International normalized ratio (1.39 ± 0.59 vs 1.11 ± 0.29 sec; $p=0.018$), aPTT (1.53 ± 0.48 vs 1.30 ± 0.41 sec; $p=0.032$), total bilirubin (3.00 ± 3.03 vs 0.88 ± 0.97 mg/dL; $p=0.001$), direct bilirubin (2.32 ± 2.66 vs 0.49 ± 0.80 mg/dL; $p=0.001$), SGOT (1053.53 ± 2138.23 vs 211.78 ± 383.76 IU/L; $p=0.040$), SGPT (440.17 ± 796.96 vs 123.00 ± 198.75 IU/L; $p=0.038$) and alkaline phosphatase (208.50 ± 234.24 vs 107.45 ± 87.22 mg/dL; $p=0.025$) were noted while lymphocyte (24.93 ± 16.11 vs 35.55 ± 17.22 percent; $p=0.001$), serum albumin (3.16 ± 0.5 vs 3.71 ± 0.47 mg/dL; $p=0.001$) and bicarbonate (18.93 ± 4.13 vs 21.84 ± 3.39 mg/dL; $p=0.001$) were significantly low in patients with AKI. Hence the significant rise in the above laboratory parameters in patients with dengue should create suspicion about development of AKI to the treating physician. Mehra N. et al.²² (2012) described elevated levels of ALT and ALP and Mallhi TH et al.¹⁰⁵ (2015) reported transaminitis as risk factor/predictor of AKI which was consistent with the present study despite of methodological differences. However, other SGOT and SGPT. Mehra N. et al.²² (2012) also reported significant role of low levels of albumin and serum bicarbonate (HCO_3). Khalil MAM. et al.³⁴ (2012) found Prolongation of aPTT as risk factor/predictor of AKI which was consistent with the present study.

Overall the present study explored the epidemiology of AKI in patients presenting with dengue fever and showed that every one out of 18 patients presenting

with DF is at risk of developing AKI. Furthermore, male gender, advanced age, progression of dengue disease to dengue shock syndrome, development of complications especially hypotension, high serum creatinine and low albumin blood urea levels at admission, lower platelet count, are the significant risk factors and predictors of AKI in dengue fever. Other than these, certain clinical characteristics like higher pulse rate and respiratory rate, and laboratory parameters including raised total count, neutrophils, monocyte, International normalized ratio, aPTT, total bilirubin, direct bilirubin, SGOT, SGPT and alkaline phosphatase should hint about the development of AKI to the treating physician. Also lower lymphocytes, serum albumin and bicarbonate creates suspicion of development of AKI in patients presenting with dengue fever. The study also showed that, the complication of AKI in patients with dengue may be fatal.

The strength of the study was cross-sectional study design and large sample size. Furthermore, this study is very use as it provides preliminary knowledge of expected clinical profile and predictors of AKI development which would provide information to identify individuals at higher risk; and on the other hand, give sufficient time to clinicians for reducing associated morbidity and mortality. Overall, AKI in patients with DF causes significant morbidity and mortality. The presence of AKI in patients with DVI should be vigilantly monitored preferably in a special care unit. The presence of AKI should alert clinicians for admission and early initiation of supportive treatment under close monitoring in order to avoid morbidity and mortality associated with this complication.

Limitations

However this study had certain limitations.

1. Single center study hence the findings obtain from this study may not be generalized to the entire population. In addition to AKI, glomerulonephritis, nephrotic range proteinuria, systemic lupus erythmatosis, lupus nephritis, IgA nephropathy and mesangioproliferative glomerulonephritis are some other renal complications which were not observed in the present study.
2. Kidney biopsy could not be done in patients hence to rule out immune complex mediated kidney injury.

Hence further multicentric studies involving large population addressing all the renal complications along with the risk factors may provide the true epidemiology of AKI in patients with dengue fever.

CONCLUSION

Based on the findings of this study it may be concluded that, there is high prevalence of AKI (5.79%) in patients presenting with dengue fever in the study area hence it cannot be neglected.

The significant predictors of AKI in patients with DF are male gender, advanced age, Hypotension, high serum creatinine and blood urea levels at the time of admission and lower platelet count at admission., evidence of polyserositis, other complications. Laboratory parameters including raised total count, International normalized ratio, a PTT, abnormal liver function tests at admission are also associated with risk developing AKI in patients with DF. Persons with DHF and DSS had more evidence of AKI compared to Dengue fever. The person who developed AKI had a more mortality.

SUMMARY

Spectrum of renal disorders is least studied in dengue infection that varies from mild glomerulonephritis, urinary sedimentations to severe Acute Kidney Injury (AKI). This study was designed to evaluate prevalence of acute kidney injury in dengue fever and find out the predictors of development of acute kidney injury in dengue fever.

This one year hospital based cross sectional study was performed in the Department of General Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi from January 2017 to December 2017. During the study period a total of 610 adults presented with dengue NS1/IgM tests. Based on selection criteria, 535 were eligible and 75 were excluded. These patients were evaluated for AKI based on AKIN criteria alongwith the risk factors that lead the development of AKI. The salient findings of the study are summarized as below.

- Majority of the patients were males (75.51%) and 24.49% were females. The male to female ratio was 3.08:1.
- Most of the patients were aged between 18 to 30 years (59.25%) followed by 31 to 40 years (22.06%). The mean age was 31.52 ± 12.47 years.
- All the patients presented with fever (100%). The next common clinical presentation was myalgia (69.91%) followed by vomiting (67.66%) and nausea (66.92%).

- Rashes were noted in 31.79% of the patients followed by petechial haemorrhage over the body (25.23%), icterus (5.23%), pallor (2.99%) and few patients had sub conjunctival haemorrhage (0.37%).
- Total count, SGOT and SGPT were raised in majority of the patients that is, 12.52%, 92.34% and 82.06% respectively.
- Urine analysis revealed 1+ proteinuria in most of the patients (21.31%) and hematuria in 0.56% of the patients.
- Chest X-ray findings revealed ARDS in 0.93% of the patients and pleural effusion in 0.93% of the patients.
- USG findings showed splenomegaly (6.36%), thickened gall bladder (40.19%), hepatomegaly (4.86%) and ascites (47.66%).
- ECG findings revealed sinus bradycardia (4.11%) tachycardia (1.31%) and old IHD (0.56%).
- The requirement of platelet transfusion was noted in 48.97% of the patients.
- With regard to severity of disease, 82.99% of the patients had dengue fever, 15.7% of the patients had dengue haemorrhagic fever and 1.31% of the patients had dengue shock syndrome.
- The prevalence of AKI was 5.79% in patients with dengue fever.
- Other than AKI, hepatitis (1.5%), MODS (0.93%) encephalitis (0.37%) were the complications noted.

- Majority of the patients (99.07%) improved and discharged and mortality was noted in 0.93% of the patients.
- 7.18% of the males developed AKI compared to 1.53% of the females (p=0.016).
- Significantly higher number of patients who were aged between 61 to 70 years (52.94%) and 71 to 80 years (50% developed AKI (p<0.001).
- AKI was diagnosed in all the (100%) patients with DSS compared to DHF (4.76%) and DF (4.5%) (p<0.001).
- The frequency of AKI was significantly high in patents who developed other complication (46.67% vs 4.62%) compared to those who did not develop other complications (p<0.001).
- Significantly higher of patients with hypotension (28.57% vs 5.49% developed AKI (p<0.001).
- Significant association was found between serum creatinine at admission and AKI (p<0.001).
- 9.02% of the patients with platelet count < 20,000 /cumm developed AKI compared to other counterparts (p=0.026).
- Positive association was found between AKI and blood urea at admission (p<0.001).
- No association was found between serositis and AKI (p=0.097).

- In this study mortality was noted in five patients and all of them had AKI (100%; $p < 0.001$).
- Significant differences were noted in patients with and without AKI pertaining to age, pulse rate, respiratory rate, total count, neutrophils, lymphocyte, monocyte, International normalized ratio, aPTT), blood urea, Serum creatinine on day one, bicarbonate, total bilirubin, direct bilirubin, SGOT, SGPT and alkaline phosphatase.

There is high prevalence of AKI (5.79%) in patients presenting with dengue fever in the study area hence it cannot be neglected.

BIBLIOGRAPHY

1. Rice CM. Flaviviridae: The viruses and their replication. In: Virology Fields BN, Knipe DM, Howley PM eds. 3rd ed., Philadelphia: Lippincott-Raven Publishers, 1996. p. 931-59.
2. WHO. Scientific Working Group Report on Dengue [online]. Geneva, Switzerland: WHO; 2007.
3. TDR/WHO. Evaluation of commercially available anti-dengue virus immunoglobulin M tests. Diagnostics Evaluation Series No.3 Geneva. Switzerland: TDR/WHO; 2009.
4. Guzman MG, Kouri G. Dengue: an update. *Lancet Infect Dis* 2002; 2:33-42.
5. Gubler DJ. The changing epidemiology of yellow fever and dengue, 1900 to 2003: full circle? *Comp Immunol Microbiol Infect Dis* 2004;27:319–30.
6. O'Brien D, Tobin S, Brown GV, Torresi J. Fever in returned travelers: review of hospital admissions for a 3-year period. *Clin Infect Dis*. 2001;33:603-9.
7. MacLean J, Lalonde R, Ward B. Fever from the tropics. *Travel Med Advisor*. 1994;5:27.1-14.
8. Halstead SB. Dengue. *Lancet* 2007;370:1644-52.
9. Mairuhu ATA, Wagenaar J, Brandjes DPM, van Gorp ECM. Dengue: an arthropod-borne disease of global importance. *Eur J Clin Microbiol Infect Dis* 2004;23:425-33.

10. Cobelens FG, Groen J, Osterhaus AD, Leentvaar-Kuipers A, Wertheim-van Dillen PM, Kager PA. Incidence and risk factors of probable dengue virus infection among Dutch travellers to Asia. *Trop Med Int Health* 2002;7:331-8.
11. Messer WB, Gubler DJ, Harris E, Sivananthan K, de Silva AM. Emergence and global spread of a dengue serotype 3, subtype III virus. *Emerg Infect Dis* 2003;9:800-9.
12. Hanna JN, Ritchie SA, Phillips DA, Serafin IL, Hills SL, van den Hurk AF. An epidemic of dengue 3 in far north Queensland, 1997-1999. *Med J Aust* 2001;174:178-2.
13. Jatanasen S, Thongcharoen P. Dengue hemorrhagic fever in South East-Asian countries. Monograph on dengue/dengue haemorrhagic fever. New Delhi: WHO; 1993.
14. Park K. The dengue syndrome. *Park's Textbook of Preventive and Social Medicine*. 23rd ed. Jabalpur: Banarsidas Bhanot Publishers; 2015. p. 246-55.
15. Broor S, Dar L, Sengupta S, Chakaraborty M, Wali JP, Biswas A, et al. Recent Dengue Epidemic in Dehli, India. In: *Factors in the emergence of arboviruses disease*, Saluzzo JE and Dodet B, eds. Paris: Elsevier; 1997. p. 123-7.
16. Gupta E, Dar L, Narang P, Srivastava VK, Broor S. Serodiagnosis of dengue during an outbreak at a tertiary care hospital in Delhi. *Indian J Med Res* 2005;121:36-8.
17. Ahlawat RS, Kalra T. Atypical manifestations of dengue fever in a recent dengue outbreak. *Ann Trop Med Public Health* 2017;10:1448-52.

18. TDR/WHO. In Dengue: Guidelines for Diagnosis, Treatment, Prevention and Control. Geneva, Switzerland: World Health Organization; 2009.
19. PAHO. Dengue and Dengue Hemorrhagic Fever in the Americas: Guidelines for Prevention and Control. Washington, DC, USA: Pan American Health Organization; 1994.
20. Nimmannitya, S. Clinical spectrum and management of dengue haemorrhagic fever. *Southeast Asian J Trop Med Pub Health* 1987;18: 392-7.
21. Martinez TE. Preventing deaths from dengue: a space and challenge for primary health care. *Rev Panam Salud Pública* 2006;20:60–74.
22. Mehra N, Patel A, Abraham G, Reddy YN, Reddy YN. Acute kidney injury in dengue fever using Acute Kidney Injury Network criteria: incidence and risk factors. *Trop Doct* 2012;42(3):160-2.
23. Karakus A, Banga N, Voorn GP, Meinders AJ. Dengue shock syndrome and rhabdomyolysis. *Neth J Med* 2007;65:78-81.
24. George R, Liam CK, Chua CT, Lam SK, Pang T, Geethan R, et al. Unusual clinical manifestations of dengue virus infection. *Southeast Asian J Trop Med Public Health* 1988;19:585-90.
25. Chacko B, John GT, Jacob CK, Vijayakumar TS. Dengue shock syndrome in a renal transplant recipient. *Transplantation*. 2004;77:634-5.
26. Garcia JH, Rocha TD, Viana CF, Gonçalves BP, Girão ES, Vasconcelos JB, et al. Dengue shock syndrome in a liver transplant recipient. *Transplantation* 2006;82:850-1.

27. Gunasekera HH, Adikaram AV, Herath CA, Samarasinghe HH. Myoglobinuric acute renal failure following dengue viral infection. *Ceylon Med J* 2000;45:181.
28. Radakovic-Fijan S, Graninger W, Müller C, Hönigsmann H, Tanew A. Dengue hemorrhagic fever in a British travel guide. *J Am Acad Dermatol* 2002;46:430-3.
29. Wiersinga WJ, Scheepstra CG, Kasanardjo JS, de Vries PJ, Zaaijer H, Geerlings SE. Dengue fever-induced hemolytic uremic syndrome. *Clin Infect Dis* 2006;43:800-1.
30. Lima EQ, Gorayeb FS, Zanon JR, Nogueira ML, Ramalho HJ, Burdmann EA. Dengue haemorrhagic fever-induced acute kidney injury without hypotension, haemolysis or rhabdomyolysis. *Nephrol Dial Transplant* 2007;22:3322-6.
31. Laoprasopwattana K, Pruekprasert P, Dissaneewate P, Geater A, Vachvanichsanong P. Outcome of dengue hemorrhagic fever-caused acute kidney injury in Thai children. *J Pediatr* 2010;157:303-9.
32. Lee IK, Liu JW, Yang KD. Clinical characteristics, risk factors, and outcomes in adults experiencing dengue hemorrhagic fever complicated with acute renal failure. *Am J Trop Med Hyg* 2009;80:651-5.
33. Wiwanitkit V. Acute renal failure in the fatal cases of dengue hemorrhagic fever, a summary in Thai death cases. *Ren Fail* 2005;27:647.
34. Khalil MA, Sarwar S, Chaudry MA, Maqbool B, Khalil Z, Tan J, et al. Acute kidney injury in dengue virus infection. *Clin Kidney J* 2012;5(5): 390-4.

35. Halstead SB. Dengue hemorrhagic fever. A public health problem and a field for research. *Bull World Health Organ* 1980;58(1):1-21.
36. Raheel U, Faheem M, Riaz MN, Kanwal N, Javed F, Zaidi Nu, et al. Dengue fever in the Indian Subcontinent: an overview. *J Infect Dev Ctries* 2011;5(4):239-47.
37. Rush B. An account of the bilious remitting fever, as it appeared in Philadelphia in the summer and autumn of the year 1780. *Med Inq Obs Philadelphia* 1789;1:104–17.
38. Cohen SN, Halstead SB. Shock associated with dengue infection. *J Paediatr* 1966;68(3):448-55.
39. Sabin AB. Research on dengue during World War II. *Am J Trop Med Hyg* 1952;1:30–50.
40. Lall R, Dhanda V. Dengue hemorrhagic fever and the Dengue shock syndrome in India. Review Article. *Nat Med J Ind* 1996;9(1):20-3.
41. Gupta N, Srivastava S, Jain A, Chaturvedi UC. Dengue in India. *Indian J Med Res* 2012;136:373-90.
42. World Health Organization. Dengue and severe dengue – Key facts. Geneva: World health Organization. Dengue and severe dengue; 2014 Available from: URL: <http://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue> Access Date 18.06.2018
43. Bhatt S, Gething PW, Brady OJ, Messina JP, Farlow AW, Moyes CL et.al. The global distribution and burden of dengue. *Nature*;496:504-507.

44. Brady OJ, Gething PW, Bhatt S, Messina JP, Brownstein JS, Hoen AG et al. Refining the global spatial limits of dengue virus transmission by evidence-based consensus. *PLoS Negl Trop Dis*. 2012;6:e1760.
45. World health Organization. Dengue and severe dengue. Factsheet No. 117. Geneva: World health Organization. Dengue and severe dengue; 2014
46. Murray NE, Quam MB, Wilder-Smith A. Epidemiology of dengue: past, present and future prospects. *Clin Epidemiol*. 2013;5:299-309.
47. Dengue, countries or areas at risk, 2011 Geneva: World Health Organization; 2012.
48. WHO Regional Office for South-East Asia. Comprehensive Guidelines for Prevention and Control of Dengue and Dengue Haemorrhagic Fever, Revised and Expanded Edition. New Delhi: World Health Organisation South East Asia Regional Office; 2011.
49. Shepard DS, Undurraga EA, Halasa YA. Economic and disease burden of dengue in Southeast Asia. *PLoS Negl Trop Dis* 2013;7(2):e2055.
50. Ferreira GL. Global dengue epidemiology trends. *Rev Inst Med Trop Sao Paulo*. 2012;54(Suppl 18):S5–6.
51. World Health Organization. Dengue fever and dengue haemorrhagic fever. Available: http://www.who.int/communicable_diseases/dengue.html. Access Date: 25.03.2014.

52. Beatty ME, Stone A, Fitzsimons DW et al. Best practices in dengue surveillance: a report from the Asia-Pacific and Americas Dengue Prevention Boards. *PLoS Neg Trop Dis* 2010; 4: e890.
53. Mutheneni SR, Morse AP, Caminade C, Upadhyayula SM. Dengue burden in India: recent trends and importance of climatic parameters. *Emerg Microbes Infect.* 2017 Aug 9;6(8):e70.
54. Daily report of Dengue in Karnataka State – 2018. New Delhi : National Vector Borne Diseases Control Programme; 2018.
55. Kumar A, Rao CR, Pandit V, Shetty S, Bammigatti C, Samarasinghe CM. Clinical manifestations and trend of dengue cases admitted in a tertiary care hospital, Udupi district, Karnataka. *Indian J Community Med* 2010; 35:386-90.
56. Kalappanvar NK, VinodKumar CS, Basavarajappa KG, Sanjay D, Chandrasekhar G. Clinical feature of serologically negative dengue cases at davangere, karnataka *IJBAR* 2012 ;03(08):611-2.
57. Jagdish C. Challenges in the Management of Dengue Hemorrhagic fever and Dengue Shock Syndrome. *Paediatr Today* 2000;4:273-7.
58. Fauci AS, Kasper DS, Longo DL, Braunwald E, Hauser SL, Jameson JL, et al. *Harrison's principles of internal medicine*. United States; McGraw Hill: 2008.
59. Halstead SB. Pathogenesis of Dengue. *Challenges to Molecular Biology. Science* 1988;239:476-81.

60. Halstead SB. Dengue Hematological Aspects. *Seminars in hematology*. 1982;19(2):116-28.
61. Kabra SK, Jain Y, Singhal T, Ratageri VH. Dengue hemorrhagic fever. Clinical manifestations and management. *Ind J Ped* 1999;66:93-101.
62. Dengue: Guidelines for Diagnosis, Treatment, Prevention and Control. World Health Organization. Geneva, Switzerland: WHO; 2009.
63. Hadinegoro SR. The revised WHO dengue case classification: does the system need to be modified? *Paediatr Int Child Health*. 2012;32 Suppl 1: 33-8.
64. Barniol J, Gaczkowski R, Barbato EV, da Cunha RV, Salgado D, Martínez E, et al. Usefulness and applicability of the revised dengue case classification by disease: multi-centre study in 18 countries. *BMC Infect Dis* 2011;11:106.
65. Mendez A, Gonzalez G. Abnormal clinical manifestation of dengue hemorrhagic fever in children. *Biomedica* 2006;26(1):61-70.
66. Chua MN, Molanida R, de Guzman M, Laberiza F. Prothrombin time and partial thromboplastin time as a predictor of bleeding in patients with dengue hemorrhagic fever. *Southeast Asian J Trop Med Public Health* 1993;24 Suppl 1:141-3.
67. Sharma S, Sharma SK, Mohan A, Wadhwa J, Dar L, Thulkar S, et al. Clinical profile of dengue haemorrhagic fever in adults during 1996-outbreak in Delhi, India. *Dengue Bull* 1998;22:20-7.

68. Wali JP, Biswas A, Chandra S, Malhotra A, Aggarwal P, Handa R, et al. Cardiac involvement in Dengue Haemorrhagic Fever. *Int J Cardiol* 1998;64(1):31-6.
69. Kuo CH, Tai DI, Chang-Chien CS, Lan CK, Chiou SS, Liaw YF. Liver biochemical tests and dengue fever. *Am J Trop Med Hyg* 1992;47(3):265-70.
70. Mohan B, Patwari AK, Anand VK. Hepatic dysfunction in childhood dengue infection. *J Trop Pediatr* 2000;46(1):40-3.
71. Shivbalan S, Anandnathan K, Balasubramanian S, Datta M, Amalraj E. Predictors of spontaneous bleeding in Dengue. *Indian J Pediatr* 2004;71(1):33-6.
72. Shah I, Deshpande GC, Tardeja PN. Outbreak of dengue in Mumbai and predictive markers for dengue shock syndrome. *J Trop Pediatr* 2004; 50(5):301-5.
73. Venkata Sai PM, Dev B, Krishnan R. Role of ultrasound in dengue fever. *Br J Radiol* 2005;78(929):416-8.
74. Karoli R, Fatima J, Siddiqi Z, Kazmi K, Sultania A. Clinical profile of dengue infection at a teaching hospital in North India. *J Infect Dev Ctries* 2012;6(7):551-4.
75. Pesaro AE, D'Amico E, Aranha LF. Dengue: cardiac manifestations and implications in antithrombotic treatment. *Arq Bras Cardiol* 2007;89(2): e12-5.
76. Gulati S, Maheshwari A. Atypical manifestations of dengue. *Trop Med Int Health* 2007;12(9):1087-95.

77. Horvath R, McBride WJH, Hanna JN. Clinical features of hospitalized patients during dengue-3 epidemic in far North Queensland 1997–1999. *Dengue Bull* 1999;23:24-9.
78. Lombardi R, Yu L, Younes-Ibrahim M, Schor N, Burdmann EA. Epidemiology of acute kidney injury in Latin America. *Semin Nephrol* 2008; 28: 320-9.
79. Lima EQ, Nogueira ML. Viral hemorrhagic fever-induced acute kidney injury. *Semin Nephrol* 2008; 28: 409-15
80. Oliveira JF, Burdmann EA. Dengue-associated acute kidney injury. *Clin Kidney J* 2015;8(6):681-5.
81. Glasscock RJ. Immune complex-induced glomerular injury in viral diseases: an overview. *Kidney Int Suppl* 1991;35:S5-7.
82. Boonpucknavig V, Bhamarapavati N, Boonpucknavig S, Futrakul P, Tanpaichitr P. Glomerular changes in dengue hemorrhagic fever. *Arch Pathol Lab Med* 1976;100:206-12.
83. Jessie K, Fong MY, Devi S, Lam SK, Wong KT. Localization of dengue virus in naturally infected human tissues, by immunohistochemistry and in situ hybridization. *J Infect Dis* 2004;189:1411-8
84. Basílio-de-Oliveira CA, Aguiar GR, Baldanza MS, Barth OM, Eyer-Silva WA, Paes MV. Pathologic study of a fatal case of dengue-3 virus infection in Rio de Janeiro, Brazil. *Braz J Infect Dis* 2005;9:341-7.

85. Mohsin N, Mohamed E, Gaber M, Obaidani I, Budruddin M, Al Busaidy S. Acute tubular necrosis associated with non-hemorrhagic dengue fever: a case report. *Renal Fail* 2009;31:736-9.
86. Repizo LP, Malheiros DM, Yu L, Barros RT, Burdmann EA. Biopsy proven acute tubular necrosis due to rhabdomyolysis in a dengue fever patient: a case report and review of literature. *Rev Inst Med Trop Sao Paulo* 2014;56:85-8.
87. Nath P, Agrawal DK, Mehrotra RM. Ultrastructural changes in skeletal muscles in dengue virus-infected mice. *J Pathol* 1982;136:301-5.
88. Gandini M, Reis SR, Torrentes-Carvalho A, Azeredo EL, Freire Mda S, Galler R, et al. Dengue-2 and yellow fever 17DD viruses infect human dendritic cells, resulting in an induction of activation markers, cytokines and chemokines and secretion of different TNF- and IFN- profiles. *Mem Inst Oswaldo Cruz* 2011;106:594-605.
89. Malheiros SM, Oliveira AS, Schmidt B, Lima JG, Gabbai AA. Dengue. Muscle biopsy findings in 15 patients. *Arq Neuropsiquiatr* 1993;51:159-64
90. Bosch X, Poch E, Grau JM. Rhabdomyolysis and acute kidney injury. *N Engl J Med* 2009;361:62-72.
91. Davis JS, Bourke P. Rhabdomyolysis associated with dengue virus infection. *Clin Infect Dis* 2004;38:e109-11.
92. Finsterer J, Kongchan K. Severe, persisting, steroid-responsive dengue myositis. *J Clin Virol* 2006;35:426-8.

93. Lim M, Goh HK. Rhabdomyolysis following dengue virus infection. *Singapore Med J* 2005;46:645-6.
94. Upadhaya BK, Sharma A, Khaira A, Dinda AK, Agarwal SK, Tiwari SC. et al. Transient IgA nephropathy with acute kidney injury in a patient with dengue fever. *Saudi J Kidney Dis Transpl* 2010;21:521-5.
95. Bhagat M, Zaki SA, Sharma S, Manglani MV. Acute glomerulonephritis in dengue haemorrhagic fever in the absence of shock, sepsis, haemolysis or rhabdomyolysis. *Paediatr Int Child Health* 2012;32:161-3.
96. Lizarraga KJ, Florindez JA, Daftarian P, Andrews DM, Ortega LM, Mendoza JM, et al. Anti-GBM disease and ANCA during dengue infection. *Clin Nephrol* 2015;83:104-10.
97. Wills BA, Nguyen MD, Ha TL, Dong TH, Tam MD, Tran TN, et al. Comparison of three fluid solutions for resuscitation in dengue shock syndrome. *N Engl J Med* 2005; 353: 877-89.
98. Zhang F, Kramer CV. Corticosteroids for dengue infection. *Cochrane Database Syst Rev* 2014;7:CD003488.
99. Mehta RL, Cerdá J, Burdmann EA, Tonelli M, García-García G, Jha V, et al. International Society of Nephrology's Oby25 initiative for acute kidney injury (zero preventable deaths by 2025): a human rights case for nephrology. *Lancet* 2015;385:2616-43

100. Mehta RL, Kellum JA, Shah SV, Molitoris BA, Ronco C, Warnock DG, et al. Acute kidney injury network: report of an initiative to improve outcomes in acute kidney injury. *Crit Care*. 2007;11:R31.
101. Daher Ede F, Junior Silva GB, Vieira AP, Souza JB, Falcão Fdos S, Costa CR, et al. Acute kidney injury in a tropical country: a cohort study of 253 patients in an infectious diseases intensive care unit. *Rev Soc Bras Med Trop* 2014;47:86-9.
102. Basu G, Chrispal A, Boorugu H, Gopinath KG, Chandy S, Prakash JA, et al. Acute kidney injury in tropical acute febrile illness in a tertiary care centre—RIFLE criteria validation. *Nephrol Dial Transplant* 2011; 26: 524–531.
103. Khalil MA, Tan J, Khalil MA, Awan S, Rangasami M. Predictors of hospital stay and mortality in dengue virus infection-experience from Aga Khan University Hospital Pakistan. *BMC Res Notes* 2014;7:473.
104. Kuo MC, Lu PL, Chang JM, Lin MY, Tsai JJ, Chen YH, et al. Impact of renal failure on the outcome of dengue viral infection. *Clin J Am Soc Nephrol* 2008;3:1350-6.
105. Mallhi TH, Khan AH, Adnan AS, Sarriff A, Khan YH, Jummaat F. Incidence, Characteristics and Risk Factors of Acute Kidney Injury among Dengue Patients: A Retrospective Analysis. *PLoS One*. 2015; 10(9):e0138465.
106. WHO. Dengue haemorrhagic fever: diagnosis, treatment, prevention and control, 2nd ed. Geneva, World Health Organization, 1997.

107. Agarwal J, Kapoor G, Srivastava S, Singh KP, Kumar R, Jain A. Unusual clinical profile of Dengue Infection in patients attending a tertiary care teaching hospital in north India. *Int J Infect Dis* 2010;14:174-5.
108. Chakravarti A, Matlani M, Kashyap B, Kumar A. Awareness of changing trends in epidemiology of dengue fever is essential for epidemiological surveillance. *Indian J Med Microbiol* 2012;30(2):222-6.
109. Navarrete-Espinosa J, Gomez-Dantes H, Celis-Quintal JG, Vazquez-Martinez JL. Clinical profile of dengue hemorrhagic fever cases in Mexico. *Salud Publica Mex* 2005;47:193-200.
110. Narayanan M, Aravind MA, Thilothammal N, Prema R, Sargunam CS, Ramamurthy N. Dengue Fever Epidemic In Chennai:A Study Of The Clinical Profile And Outcome. *Indian Paediatr* 2002;39:1027-33.
111. Padbidri VS, Adhikari P, Thakare JP, Ilkal MA, Joshi GD, Pereira P, et al. The 1993 epidemic of dengue fever in Mangalore, Karnataka state, India. *South East Asian J Trop Med Public Health* 1995;26(4):699-704.
112. Tripathi BK, Gupta B, Sinha RSK, Prasad S, Sharma DK. Experience in adult population in Dengue outbreak in Delhi. *JAPI* 1998;46:273-6.
113. Hommel D, Talarmin A, Reynes JM, Hulin A. Acute renal failure associated with dengue fever in French Guiana. *Nephron* 1999;83(2):183.
114. Vakrani GP, Subramanya MNT. Acute Renal Failure in Dengue Infection. *J Clin Diagnostic Res* 2017;11(1):OC10-1310.

115. Naqvi R. Dengue Infection Causing Acute Kidney Injury. *Trop Med Surg* 2016;4(2):1-4.
116. Lee K, Liu JW, Yang KD. Clinical and laboratory characteristics and risk factors for fatality in elderly patients with dengue hemorrhagic fever. *Am J Trop Med Hyg* 2008;79:149-53.

ANNEXURE I – CONSENT FORM

INFORMED CONSENT

Title Of Research Study: ACUTE KIDNEY INJURY IN DENGUE FEVER, A ONE YEAR HOSPITAL BASED CROSSSECTIONAL STUDY.

Principal Investigator:-

Dr.
Post Graduate Student,
Department Of General Medicine,
JNMC, Belagavi.

Guide:-

Dr. _____
Professor,
Department of General Medicine,
JNMC, Belagavi.

Introduction and Purpose:-

Dengue is a prevalent disease in the tropics caused by dengue virus by the mosquito bite. there are few studies about renal manifestations in dengue fever. renal manifestations in dengue increase mortality and hospital stay.so this study will help for duration of renal complication.

Procedure:

If you agree to be part of the research study, you will be asked the relevant history and will be subjected to relevant clinical examination and investigations. You will also have to give blood samples for the necessary investigations.

Risk and Benefits:

The only risk and possible discomfort you might get is while taking blood from your arm for the investigations. It may cause swelling, pain, redness (rarely happens) at the site from where the blood is drawn.

You may not be benefitted by these investigations but you will be part of this study which is going to be useful to others in the future.

Alternatives:

Taking part in this study is voluntary. You may choose not to take part in this study. If you decide to take part you can later change your mind and withdraw from the study. Your decision will not change the present or future health care or other services that you receive. The study doctor or sponsor may stop your participation in this study at any time. If you choose not to take part in the study, you will receive the standard treatment for patients with your condition.

Privacy and Confidentiality:

All information collected about you during the course of this study will be kept confidential to the extent permitted by law. The code numbers will identify you in this research record. Information from this study may be published but your identity will be confidential in any publication.

Institution / Sponsor's policy:

Does not apply to this research

Financial incentives for participation:

You will not be paid / offered any gifts /incentives for participating in the study.

Authorization to publish the results:

The results of the study would be forwarded to the KLE University, Belagavi as part of requirement towards the completion of MD degree, review and publishing.

In case of the queries during study or in future you may contact following persons,

1. Dr. Ganga Pilli, Chairman,
J.N.M.C Ethical Committee for
Human Research
9480275601

2. Dr. _____
Professor of Medicine
Dept of General Medicine,
JNMC, Belagavi.

3. Dr. _____
Investigator,
PG in General Medicine,
JNMC, Belagavi.

CONSENT FORM

I voluntarily agree to take part in this study by signing below. I may withdraw at any time. I am not giving up any of my legal rights by signing this form. My signature below indicates that I have read this consent form, or it has been read to me and has been explained to me in my vernacular language and all my questions have been answered. I will be given a copy of this consent form.

Signature / Left Thumb print of the Participant or legally authorized representative

Participant's name :.....

Signature / Left thumb impression :.....

of the participant

Name of the legally authorized :.....

representative / guardian

Signature / Left thumb impression :.....

Witness' name :.....

Signature / Left thumb impression :.....

Investigator's name and signature :.....

Date:

Place:

ANNEXURE II – PROFORMA

Patient name	IP number
Age/sex	DOA
Address	
Occupation	DOD
Hospital stay	

History of present illness according to who criteria

	Present/not	Duration
1 .Fever	<input type="checkbox"/>	<input type="checkbox"/>
2. Chills	<input type="checkbox"/>	<input type="checkbox"/>
3. Headache	<input type="checkbox"/>	<input type="checkbox"/>
4. Neck rigidity	<input type="checkbox"/>	<input type="checkbox"/>
5. Vomiting	<input type="checkbox"/>	<input type="checkbox"/>
6. Nausea	<input type="checkbox"/>	<input type="checkbox"/>
7. Giddiness	<input type="checkbox"/>	<input type="checkbox"/>
8. Backache	<input type="checkbox"/>	<input type="checkbox"/>
9. Myalgia	<input type="checkbox"/>	<input type="checkbox"/>
10. Joint pains	<input type="checkbox"/>	<input type="checkbox"/>
11. Retro orbital pain	<input type="checkbox"/>	<input type="checkbox"/>
12. Abdominal pain	<input type="checkbox"/>	<input type="checkbox"/>
13. Loss of appetite	<input type="checkbox"/>	<input type="checkbox"/>
14. Loose stools	<input type="checkbox"/>	<input type="checkbox"/>
15. Jaundice	<input type="checkbox"/>	<input type="checkbox"/>
16. High coloured urine	<input type="checkbox"/>	<input type="checkbox"/>

17. Photophobia	<input type="checkbox"/>	<input type="checkbox"/>
18. Oliguria	<input type="checkbox"/>	<input type="checkbox"/>
19. Cough	<input type="checkbox"/>	<input type="checkbox"/>
20. Sore throat	<input type="checkbox"/>	<input type="checkbox"/>
21. Breathlessness	<input type="checkbox"/>	<input type="checkbox"/>
22. Haemoptysis	<input type="checkbox"/>	<input type="checkbox"/>
23. Epistaxis	<input type="checkbox"/>	<input type="checkbox"/>
24. Diarrhea/dysentery	<input type="checkbox"/>	<input type="checkbox"/>
25. Malena	<input type="checkbox"/>	<input type="checkbox"/>
26. Hematemesis	<input type="checkbox"/>	<input type="checkbox"/>
27. Sub conjunctival hemorrhage	<input type="checkbox"/>	<input type="checkbox"/>
28. Bleeding gums	<input type="checkbox"/>	<input type="checkbox"/>
29. Petechiae	<input type="checkbox"/>	<input type="checkbox"/>
30. Urticaria	<input type="checkbox"/>	<input type="checkbox"/>

Past history

Previous hospitalization

Diabetis mellitus /nephropathy

Hypertensive nephropathy

Chronic kidney disease other causes

Other infectious diseases malaria,enteric fever

treatment history nsaids usage

Personal history

Menstrual history in females

Physical examination

Vitals

Pulse rate bpm
 Blood pressure mm Hg
 Respiratory rate / Min

Temperature

General condition

Pallor

Icterus

Lymphadenopathy

Sub conjunctival hemorrhage

Petechial hemorrhage over the body

Tongue

Rashes

Systemic examination

Respiratory system

Cardiovascular system

Per abdomen

Central nervous system

Laboratory investigations

	report	reference	interpretation
Haemoglobin (mg/dL)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Packed cell volume (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total count (Cells/cmm)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Differential count	n <input type="text"/>	l <input type="text"/>	e <input type="text"/>
			m <input type="text"/>
			b <input type="text"/>

ESR (mm/hr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Platelet count (/cumm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peripheral smear for morphology			
PT/INR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
APTT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dengue NS1	<input type="checkbox"/>		
Dengue IgM	<input type="checkbox"/>		
Dengue IgG			
Blood urea (mg/dL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Serum creatinine (mg/dL)

Serum Sodium (mmol/L)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Serum Potassium (mmol/L)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LFT Total bilirubin (mg/dL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Direct bilirubin (mg/dL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SGOT (IU/L)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SGPT (IU/L)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Random blood sugar (mg/dL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alkaline phosphatase (mg/dL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Serum albumin (mg/dL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Serum bicarbonate (mg/dL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Urine routine & microscopy

Colour

Protein

Hematuria

Casts

Urine myoglobin

Chest xray

Ultrasound abdomen

1. Spleen

2. Gall bladder wall thickness

3. Liver

4. Kidney size

Right

Left

5. Ascites

ECG

Kidney biopsy SOS

Platelet transfusion

Final diagnosis

Complications MODS

Dengue fever

Dengue hemorrhagic fever

Dengue shock syndrome

Inference

Duration of hospital stay

Mortality & causes

ANNEXURE III - KEY TO MASTER CHART

-	-	Absent
-	-	Negative
+	-	Positive
⁰ F	-	Degree Fahrenheit
A	-	Absent
Advoc	-	Advocate
AKI	-	Acute kidney injury
APTT	-	Activated partial thromboplastin time
ARDS	-	Acute respiratory distress syndrome
b/l	-	Bilateral
BP	-	Blood pressure
bpm	-	Beats per minute
bs	-	Business
cells/cumm	-	Cells per cubic millimeters
Crepts	-	Crepitations
D	-	Decreased
DF	-	Dengue fever
DHF	-	Dengue haemorrhagic fever
Dr	-	Doctor
DSS	-	Dengue shock syndrome
E	-	Expired
ECG	-	Electrocardiogram
ESR	-	Erythrocyte sedimentation rate
f	-	Female

fm	-	Farmer
g/dL	-	Grams per deciliter
Hpg	-	Hepatomegaly
hw	-	House wife
I	-	Improved
IgM	-	Immunoglobulin M
IHD	-	Ischaemic heart disease
INR	-	International normalized ratio
IU/L	-	International units per litre
m	-	Male
mg/dL	-	Milligrams per deciliter
mm Hg	-	Millimeters of mercury
Mm/hr	-	Millimeters per hour
mmol/L	-	Millimole per litre
MODS	-	Multiple organ dysfunction syndrome
n	-	Normal
ND	-	Not done
NS	-	Non structural protein
NSAID	-	Non steroidal anti inflammatory drug
P	-	Present
PT	-	Prothrombin time
RBS	-	Random blood sugar
rdp	-	Random donor platelet
SB	-	Sinus bradycardia
SCH	-	Sub conjunctival hemorrhage

SCH	-	Sub conjunctival haemorrhage
sdp	-	Single donor platelets
SGOT	-	Serum glutamic oxaloacetic transaminase
SGPT	-	Serum glutamic pyruvic transaminase
Sk	-	Skilled worker
SOS	-	S opus sit
Spg	-	Splenomegaly
St	-	Student
Tachy	-	Tachycardia
Th	-	Thick
Unsk	-	Unskilled worker
USG	-	Ultrasonography

Serial number	In patient number	Demographic data		History																					Physical Examination								Systemic examination			Systemic examination															
		Age (Years)	Sex	Occupation	Present history											Past history					Personal history	Vitals				General condition				Respiratory system	Cardiovascular system	Per abdomen	Central nervous system																		
					Fever	Vomiting	Nausea	Myalgia	Joint pains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Melena	Hematemesis	SCH	Bleeding gums	Previous hospitalization		DM/Nephropathy	Hypertensive nephropathy	CKD/others	Malaria	Other infection diseases	Enteric fever	NSAIDS usage	PR (b/bm)					BP		RR (/m)	Temperature (0F)	Pallor	Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes								
1	813548	65	m	Retired	1	-	-	-	-	-	1	1	D	-	-	-	-	-	-	-		-	-	1	-	-	-	-	-					-	-									-	-	-	-	-	-	132	100
2	812443	18	m	St	1	1	1	-	-	-	1	-	n	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	110	90	60	20	98.2	A	A	A	A	A	n	n	Tenderness	n	
3	818491	26	m	St	1	-	-	-	-	-	1	1	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	nr	nr	nr	36	98.2	A	A	A	A	A	P	b/crepts	n	n	Restless	
4	826461	45	m	Unsk	2	-	-	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	90	60	16	98.2	A	A	A	A	A	A	n	n	hepatomegaly	n		
5	826733	60	m	fm	4	-	-	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	110	80	18	98.2	A	A	A	A	A	A	n	n	n	n		
6	827311	25	m	St	1	1	1	-	-	-	1	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	110	60	18	98.2	A	A	A	A	A	A	n	n	n	n		
7	826959	38	m	Bs	1	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	80	16	98.2	A	A	A	A	A	A	n	n	n	n		
8	824651	52	m	fm	15	-	-	15	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	110	70	35	98.2	A	A	A	A	A	A	n	n	n	Encephalitis		
9	814803	38	m	Unsk	4	1	1	4	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	80	50	18	98.2	A	A	A	A	A	A	n	n	n	n		
10	822121	42	m	Engineer	7	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	120	80	19	98.2	A	A	A	A	A	A	crepts	n	hepatomegaly	n		
11	804499	18	m	St	4	-	-	-	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	130	80	18	99	A	A	A	A	A	A	n	n	n	n		
12	827801	35	f	hw	7d	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	120	80	18	98.2	A	A	A	A	A	A	n	n	n	n		
13	827859	35	m	Bs	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	110	90	18	98.2	A	A	A	A	A	A	n	n	n	n		
14	827798	20	m	St	8	1	1	-	-	-	1	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	100	60	18	98.2	A	A	A	A	A	A	n	n	n	n		
15	826458	50	m	Engineer	2	-	-	-	-	-	15	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	134	80	16	98.2	A	A	A	A	A	A	n	n	n	n		
16	826358	19	m	St	8	-	-	-	-	8	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	100	70	18	98.2	A	A	A	A	A	A	n	n	n	n		
17	826143	26	m	St	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	106	110	70	18	98.2	A	A	A	A	A	A	n	n	n	n		
18	826398	29	m	Bs	8	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	120	90	18	98.2	A	A	A	A	A	A	n	n	n	n		
19	826123	24	f	St	4	4	4	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	100	60	22	98.2	A	A	A	A	A	A	n	n	n	n		
20	825736	25	m	Unsk	6	-	-	6	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	100	80	18	98.2	A	A	A	A	A	A	n	n	n	n		
21	826158	23	m	St	5	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	100	70	18	98.2	A	A	A	A	A	A	n	n	n	n		
22	825940	18	m	St	2	-	-	-	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	100	60	18	100	A	A	A	A	A	A	n	n	n	n		
23	825773	21	m	St	5	1	1	-	-	1	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	110	70	18	98.2	A	A	A	A	A	A	n	n	n	n		
24	825399	38	m	fm	8	-	-	8	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	70	16	98.2	A	A	A	A	A	A	n	n	n	n		
25	822588	32	m	Bs	3	3	3	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	106	70	14	98.2	A	A	A	A	P	A	n	n	n	n		
26	822604	32	m	St	7	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	120	80	18	98.2	P	A	A	A	A	A	n	n	n	n		
27	822551	20	m	St	4	4	4	-	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	110	60	18	100	A	A	A	A	P	A	n	n	n	n		
28	822274	18	m	St	4	-	-	-	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	70	16	98.2	A	A	A	A	P	A	n	n	n	n		
29	823466	45	f	fm	2	2	2	2	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	110	60	15	100	A	A	A	A	A	A	n	n	n	n		
30	822948	40	f	hw	4	-	-	-	-	3	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	140	90	25	101	A	A	A	A	A	A	n	n	n	n		
31	822976	28	f	hw	6	3	3	-	-	3	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	130	70	16	98.2	A	A	A	A	A	A	n	n	n	n		
32	823059	35	m	Bs	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	130	80	16	98.2	A	A	A	A	A	A	n	n	n	n		
33	832244	18	m	St	3	-	-	3	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	14	98.2	A	A	A	A	A	A	n	n	n	n		
34	822977	26	m	Bs	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	18	99	A	A	A	A	A	A	n	n	n	n		
35	823133	23	f	St	5	-	-	4	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	130	80	16	99	A	A	A	A	A	A	n	n	n	n		
36	823201	25	m	Bs	4	4	4	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	120	80	16	100	A	A	A	A	A	A	n	n	n	n		
37	823228	32	m	fm	2	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	118	70	18	100	A	A	A	A	P	P	n	n	n	n		
38	822983	23	f	hw	7	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	100	60	16	98	A	A	A	A	A	A	n	n	n	n		
39	823917	19	m	St	3	3	3	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	150	80	22	98.2	A	A	A	A	P	A	n	n	n	n		
40	823897	21	m	St	10	1	1	1	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	110	60	18	98.2	A	A	A	A	A	A	n	n	n	n		
41	823849	28	m	Unsk	3	-	-	3	-	3	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	120	70	16	98.2	A	A	A	A	A	A	n	n	n	n		

Serial number	In patient number	Laboratory investigations																Laboratory investigations																		
		Hb (mg/dL)	PCV (%)	Total count cells/CM	Differential count				Platelet count(x10 ³)								Platelet transfusion	Peripheral smear	PT/INR	APTT	Dengue NS1	Dengue IgM	Blood urea (mg/dL)	Serum creatinine (mg/dL)							Sodium (mmol/L)	Potassium (mmol/L)				
					Neutrophil	Lymphocyte	Monocyte	Eosinophils	ESR (mm/hr)	First	Second	Third	Fourth	Fifth	Sixth	Seventh								Eighth	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6			Day 7			
1	813548	16	47	4700	75	21	4	-	9	2	18	-	-	-	-	-	-	1sdp	Mild neutrophilia with thrombocytopenia	1.8	1.8	+	-	120	3.19	3.62	3.91	-	-	-	-	-	-	133	4.37	
2	812443	19	43	9400	77	18	5	-	13	23	54	94	-	-	-	-	-	1sdp	Erythrocytosis with thrombocytopenia	1.13	1.12	+	-	55	1.52	1.73	1.64	-	-	-	-	-	-	141	6.29	
3	818491	5	23	3000	41	56	3	-	40	-	-	-	-	-	-	-	-	nil	Pancytopenia with dimorphic anemia	2.31	1.37	-	+	121	5.22	-	-	-	-	-	-	-	-	-	125	4.35
4	826461	13	42	16300	46	52	2	0	15	23	20	45	152	-	-	-	-	4rdp	Thrombocytopenia	0.95	1.9	-	+	120	3.92	4.20	4.60	4.68	3.30	2.19	1.49	135	3.9			
5	826733	14	41	2300	56	40	4	0	38	57	72	102	140	-	-	-	-	nil	Leucopenia with thrombocytopenia	1	0.91	+	+	10	0.94	0.86	-	-	-	-	-	-	-	134	4.6	
6	827311	18.1	43	7100	42	48	10	0	8	10	34	53	-	-	-	-	-	1sdp	Thrombocytopenia	0.91	0.91	+	+	20	0.60	1.13	-	-	0.90	-	-	-	136	4.39		
7	826959	18	38	18600	82	9	9	-	6	25	29	32	70	84	-	-	-	4rdp,1sdp	Thrombocytopenia	0.97	0.92	+	+	20	0.90	1.30	-	-	0.82	-	-	-	138	4.4		
8	824651	12	40	20600	40	60	0	-	14	53	33	131	125	-	-	-	-	4rdp	Thrombocytopenia	0.92	0.92	-	+	56	1.80	2.10	2.69	2.31	1.54	-	-	-	143	4.56		
9	814803	14	42	4300	48	46	4	2	27	46	62	82	140	-	-	-	-	nil	Leucopenia with thrombocytopenia	0.94	0.91	-	+	14	0.90	0.86	-	-	-	-	-	-	-	142	3.9	
10	822121	16	40	2500	62	31	7	-	69	42	34	56	70	-	-	-	-	nil	Leucopenia with thrombocytopenia	0.92	1.63	-	+	79	4.10	4.94	4.59	3.66	-	-	-	-	-	135	4.6	
11	804499	15	38	3200	56	40	4	0	22	30	36	42	56	84	96	112	-	2rdp	Leucopenia with thrombocytopenia	0.92	0.91	-	+	12	0.60	0.62	-	-	-	-	-	-	-	132	4.5	
12	827801	15.4	37	8900	40	58	2	-	48	56	110	-	-	-	-	-	-	nil	Thrombocytopenia	1.01	0.92	-	+	10	0.67	0.62	-	-	-	-	-	-	-	137	5	
13	827859	16	39	3500	70	23	7	-	14	10	19	45	71	-	-	-	-	1sdp	Leucopenia with thrombocytopenia	ND	ND	+	+	45	1.06	0.92	-	-	-	-	-	-	-	136	4.5	
14	827798	14	40	3900	42	56	2	-	71	57	62	76	126	-	-	-	-	nil	Leucopenia with thrombocytopenia	ND	ND	+	-	14	0.99	0.77	-	-	-	-	-	-	-	128	4.8	
15	826458	13	36	39483	71	18	10	-	166	114	82	26	22	36	92	145	-	2rdp	Normocytic normochromic	ND	ND	+	-	35	1.20	1.04	-	-	-	-	-	-	-	135	4.84	
16	826358	16	42	5290	59	33	7	-	7	13	16	25	50	77	156	243	-	4rdp	Thrombocytopenia	ND	ND	+	+	24	1.00	0.90	-	-	-	-	-	-	-	136	4.5	
17	826143	13	34	4600	48	42	10	-	42	43	45	60	89	-	-	-	-	nil	Leucopenia with thrombocytopenia	ND	ND	+	+	35	1.00	0.80	-	-	-	-	-	-	-	137	3.7	
18	826398	18	43	6300	65	20	15	-	15	27	34	65	142	-	-	-	-	1sdp	Erythrocytosis with thrombocytopenia	0.48	0.15	+	+	24	1.01	0.99	-	-	-	-	-	-	-	135	5	
19	826123	11	40	3500	60	33	6	-	5	13	68	45	58	59	-	-	-	1sdp,2rdp	Leucopenia with thrombocytopenia	0.89	1.68	-	+	29	0.77	0.71	-	-	-	-	-	-	-	138	5.2	
20	825736	16	44	8300	40	60	10	-	26	28	68	70	124	-	-	-	-	nil	Thrombocytopenia	0.45	0.26	+	-	19	0.98	0.90	-	-	-	-	-	-	-	135	4.3	
21	826158	16	43	4500	49	44	7	-	16	31	64	86	126	-	-	-	-	4rdp	Leucopenia with thrombocytopenia	ND	ND	+	-	41	0.88	0.62	-	-	-	-	-	-	-	140	5.13	
22	825940	13	34	6400	80	13	7	-	138	101	126	140	186	-	-	-	-	nil	Thrombocytopenia	ND	ND	+	-	24	1.20	1.02	-	-	-	-	-	-	-	136	3.83	
23	825773	15	42	3200	40	58	2	-	68	76	80	90	-	-	-	-	-	nil	Leucopenia with thrombocytopenia	ND	ND	+	+	10	0.73	0.72	-	-	-	-	-	-	-	136	4.8	
24	825399	15	44	3500	37	36	10	18	-	20	13	50	37	60	85	-	-	1sdp	Leucopenia with thrombocytopenia	ND	ND	-	+	34	1.05	0.87	-	-	-	-	-	-	-	137	4.4	
25	822588	19	52	3200	36	50	9	-	16	17	91	102	-	-	-	-	-	5 rdp	Leucopenia with thrombocytopenia	ND	ND	-	+	28	1.03	1.00	-	-	-	-	-	-	-	127	5.31	
26	822604	14	38	12200	44	46	10	6	16	26	71	127	135	185	-	-	-	1sdp	Leucocytosis with thrombocytopenia	0.97	ND	-	+	18	1.06	0.91	-	-	-	-	-	-	-	131	3.47	
27	822551	6.9	22	2330	25	69	2	4	231	42	86	152	200	-	-	-	-	1 sdp,2rdp	Pancytopenia	ND	ND	+	-	16	1.00	0.92	-	-	-	-	-	-	-	128	4.5	
28	822274	15	38	2230	53	45	5	2	25	52	76	172	248	-	-	-	-	4rdp	Leucopenia with thrombocytopenia	ND	ND	+	-	22	0.90	0.20	-	-	-	-	-	-	-	130	4.6	
29	823466	13	34	4100	77	20	3	-	95	73	45	32	20	44	93	-	-	no	Thrombocytopenia	ND	ND	+	+	30	1.27	1.10	-	-	-	-	-	-	-	137	3.49	
30	822948	14	37	6500	80	19	1	-	134	148	163	-	-	-	-	-	-	no	n	ND	ND	-	+	18	0.70	0.72	-	-	-	-	-	-	-	136	4.45	
31	822976	13	34	3500	78	20	2	-	72	66	59	75	105	192	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	+	-	16	0.72	0.59	-	-	-	-	-	-	-	139	4.32	
32	823059	15	36	7500	73	20	7	-	210	213	-	-	-	-	-	-	-	no	n	ND	ND	+	-	24	0.94	0.80	-	-	-	-	-	-	-	139	4.48	
33	832244	14	32	3700	50	34	7	-	70	67	56	42	68	102	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	+	-	10	0.45	0.52	-	-	-	-	-	-	-	141	4.31	
34	822977	18	42	6500	76	14	10	-	21	47	19	30	49	69	103	-	-	4rdp,1sdp	Thrombocytopenia	ND	ND	+	-	16	0.86	0.72	-	-	-	-	-	-	-	136	5.72	
35	823133	13	38	2000	27	62	10	-	40	27	34	75	137	-	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	+	-	10	0.82	0.74	-	-	-	-	-	-	-	138	4.11	
36	823201	19	44	3100	49	41	10	-	8	13	16	65	128	-	-	-	-	6rdp	Leucopenia with thrombocytopenia	ND	ND	+	-	31	1.14	1.15	-	-	-	-	-	-	-	132	4.18	
37	823228	14	38	6700	32	41	10	-	15	16	32	42	80	102	122	-	-	4rdp	Esinophilia with thrombocytopenia	ND	ND	-	+	21	1.90	0.87	-	-	-	-	-	-	-	139	3.89	
38	822983	13	36	4400	30	66	4	-	24	19	47	66	95	-	-	-	-	1sdp,2rdp	Leucopenia with thrombocytopenia	ND	ND	-	+	12	0.45	0.47	-	-	-	-	-	-	-	133	3.07	
39	823917	13	34	5700	49	42	8	-	45	125	146	-	-	-	-	-	-	4rdp	Thrombocytopenia	ND	ND	+	-	24	1.05	0.52	-	-	-	-	-	-	-	133	4.96	
40	823897	13	42	15200	72	18	8	-	45	44	62	76	88	120	-	-	-	no	Neutrophilic leucocytosis with thrombocytopenia	ND	ND	-	+	36	0.91	0.86	-	-	-	-	-	-	-	134	4.56	
41	823849	16	40	6700	36	55	8	-	16	29	40	62	96	-	-	-	-	4rdp	Lymphocytosis with thrombocytopenia	ND	ND	+	-	18	0.71	0.60	-	-	-	-	-	-	-	139	4.38	

Serial number	In patient number	Laboratory investigations																	Outcome								
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest Xray	USG abdomen					ECG	Kidney biopsy SOS	Final diagnosis	Duration of hospital stay	Mortality	AKI	Other Complications	
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size	Ascites								
																											Pleural effusion
1	813548	12	10.73	8.63	1039	492	3	560	68	A	A	A	ND	n	Spg	Th	Hpg	n	P	n	ND	DSS	2	E	+	-	MODS
2	812443	14	1.06	0.75	5042	2370	3.2	1240	220	3+	A	A	ND	Pleural effusion	n	n	n	n	A	SB	ND	DF	4	I	+	-	-
3	818491	16	3.84	3.73	944	383	2.8	460	173	3+	P	1	ND	ARDS	n	n	n	n	A	n	ND	DSS	1	E	+	-	MODS
4	826461	18	4.66	4.65	135	68	3.4	142	130	2+	P	A	ND	n	n	n	n	n	A	n	ND	DHF	7	I	+	-	-
5	826733	22	0.3	0.12	96	56	4.2	96	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
6	827311	24	1.14	0.58	181	98	3.8	102	109	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	+	-	-
7	826959	18	2.29	1.5	150	145	3.6	100	101	A	A	A	ND	n	n	n	Hpg	n	P	n	ND	DF	6	I	+	-	-
8	824651	16	2.08	1.69	57	43	1.8	206	110	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	+	-	Encephalitis
9	814803	16	0.12	0.09	46	42	3.8	56	145	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-	-
10	822121	18	0.3	0.23	91	39	2.8	76	100	3+	A	A	ND	n	Spg	n	n	n	A	n	ND	DF	5	I	+	-	-
11	804499	20	0.9	0.45	96	52	4	84	115	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	10	I	-	-	-
12	827801	22	0.63	0.32	95	76	4.2	90	90	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-
13	827859	17	1.51	0.71	74	32	3.9	113	103	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
14	827798	27	0.5	0.1	296	109	4.2	115	91	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
15	826458	24	0.6	0.22	18	17	2.9	100	194	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-	-
16	826358	22	0.6	0.2	264	87	4.2	445	115	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-	-
17	826143	24	0.9	0.45	17	14	3.8	100	155	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
18	826398	22	0.48	0.11	164	109	3	40	178	A	A	A	ND	n	n	n	n	n	P	n	ND	DHF	5	I	-	-	-
19	826123	22	0.4	0.24	76	45	2.9	70	162	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-
20	825736	24	0.45	0.26	188	86	4.2	100	110	1+	A	A	ND	n	n	Th	n	n	A	n	ND	DHF	5	I	-	-	-
21	826158	24	0.33	0.24	256	153	4.2	100	102	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-
22	825940	22	0.75	0.2	45	37	4	10	111	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-
23	825773	24	0.38	0.1	35	32	3.8	96	103	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	4	I	-	-	-
24	825399	20	0.49	0.87	62	30	3.6	82	84	A	A	A	ND	n	n	n	n	n	A	SB	ND	DF	6	I	-	-	-
25	822588	26	0.74	0.37	182	100	4	110	118	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-
26	822604	25	1.29	0.85	104	139	3.7	100	101	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-
27	822551	20	0.4	0.2	85	43	4	96	114	A	A	A	ND	n	n	n	Hpg	n	A	n	ND	DF	8	I	-	-	-
28	822274	22	0.7	0.2	120	108	4.2	120	100	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	-	-	-
29	823466	19	0.42	0.13	46	34	3.6	110	138	A	A	A	ND	n	n	n	n	n	A	SB	ND	DF	7	I	-	-	-
30	822948	24	0.26	0.11	70	26	3.7	82	317	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
31	822976	24	0.18	0.14	117	34	3.8	102	153	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
32	823059	18	0.26	0.16	35	32	2.9	90	92	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
33	832244	22	0.2	0.1	200	60	4.2	92	99	A	A	A	ND	n	n	Th	Hpg	n	A	n	ND	DF	6	I	-	-	-
34	822977	26	0.5	0.29	56	32	4	102	231	A	A	A	ND	n	n	n	n	n	A	SB	ND	DF	7	I	-	-	-
35	823133	26	0.25	0.2	152	83	3.6	90	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
36	823201	24	0.7	0.47	215	89	4	102	215	3+	A	A	ND	n	n	n	n	n	P	n	ND	DHF	7	I	-	-	-
37	823228	24	5.9	0.31	48	25	4	82	80	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	7	I	-	-	-
38	822983	26	0.47	0.24	23	63	3.8	90	93	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-
39	823917	24	1.17	0.7	151	173	3.3	100	104	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
40	823897	23	0.95	0.33	21	23	2.9	92	99	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
41	823849	28	0.8	0.4	126	108	4	120	183	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-

Serial number	In patient number	Laboratory investigations													Laboratory investigations																				
		Hb (mg/dL)	PCV (%)	Total count cells/CM	Differential count				Platelet count(x10 ³)								Platelet transfusion	Peripheral smear	PT/INR	APTT	Dengue NS1	Dengue IgM	Blood urea (mg/dL)	Serum creatinine (mg/dL)							Sodium (mmol/L)	Potassium (mmol/L)			
					Neutrophil	Lymphocyte	Monocyte	Eosinophils	ESR (mm/hr)	First	Second	Third	Fourth	Fifth	Sixth	Seventh								Eighth	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6			Day 7		
42	823515	14	34	3000	34	57	8	-	-	19	31	22	59	106	203	-	-	1sdp,2rdp	Leucopenia with thrombocytopenia	ND	ND	-	+	14	0.52	0.50	-	-	-	-	-	-	137	5.02	
43	823919	16	46	4700	74	22	4	-	-	89	66	86	96	124	-	-	-	no	Thrombocytopenia	ND	ND	-	+	32	0.66	0.62	-	-	-	-	-	-	119	5	
44	823992	15	44	4600	50	40	10	-	-	58	62	86	96	126	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	20	0.90	0.92	-	-	-	-	-	-	139	3.87	
45	823968	14	40	9900	79	7	4	12	-	89	92	83	65	87	113	-	-	-	no	Thrombocytopenia	ND	ND	-	+	32	0.97	0.82	-	-	-	-	-	-	136	4.2
46	823893	18	50	8400	77	13	10	-	-	22	26	39	41	88	135	145	-	1sdp,4rdp	Polycythemia with neutrophilia with thrombocytopenia	ND	ND	+	+	26	0.98	1.00	0.82	0.69	-	-	-	-	132	4.12	
47	822448	14	44	5300	40	58	2	-	-	21	31	62	196	-	-	-	-	2rdp	Leucopenia with thrombocytopenia	ND	ND	+	+	44	1.08	1.02	-	-	-	-	-	-	132	4.52	
48	822521	16	44	4600	53	36	10	-	-	14	24	62	161	-	-	-	-	1sdp	Thrombocytopenia	ND	ND	-	+	23	0.75	0.69	-	-	-	-	-	-	132	4.32	
49	822256	15	38	5600	57	33	10	-	-	163	176	208	-	-	-	-	-	no	n	1.04	1.08	-	+	42	1.05	1.15	0.78	0.80	-	-	-	-	137	4.3	
50	821661	15	43	30000	35	33	9	-	-	19	22	44	48	73	-	-	-	4rdp	Thrombocytopenia	ND	ND	-	+	36	1.15	1.15	-	-	-	-	-	-	136	5.3	
51	821437	16	46	4300	45	42	10	-	-	62	52	43	66	107	144	-	-	no	Thrombocytopenia	ND	ND	-	+	42	1.10	1.02	-	-	-	-	-	-	141	4.6	
52	802531	12	38	16200	83	11	6	-	-	32	28	27	45	106	-	-	-	no	Leucocytosis with thrombocytopenia	ND	ND	+	+	26	0.96	0.60	-	-	-	-	-	-	133	2.53	
53	802209	13	43	3880	48	50	2	-	-	20	9	8	14	42	96	-	-	1sdp	Leucopenia with thrombocytopenia	ND	ND	-	+	23	1.50	0.70	-	-	-	-	-	-	132	4.5	
54	806348	13	42	2600	77	19	4	-	-	117	87	68	55	49	69	92	-	no	Leucopenia with thrombocytopenia	ND	ND	+	+	15	0.66	0.66	-	-	-	-	-	-	138	3.85	
55	820503	16	48	3300	30	50	10	2	-	20	21	28	60	81	135	-	-	4rdp	Leucopenia with thrombocytopenia	ND	ND	+	-	14	0.97	0.86	-	-	-	-	-	-	137	4.4	
56	820545	15	44	5900	53	35	10	-	-	168	195	-	-	-	-	-	-	no	leucopenia	ND	ND	-	+	16	0.96	0.82	-	-	-	-	-	-	133	4.37	
57	829701	11	38	6500	87	10	3	-	-	18	16	30	46	52	62	102	126	4rdp	Thrombocytopenia	1.24	1.28	+	+	52	2.12	2.10	-	-	-	-	-	-	136	4.7	
58	819765	13	42	6700	71	23	6	-	-	21	178	-	-	-	-	-	-	1sdp	Thrombocytopenia	ND	ND	+	+	16	0.80	0.82	-	-	-	-	-	-	136	4.24	
59	819800	16	46	3600	76	20	3	-	-	24	14	20	27	95	134	171	-	1sdp	Leucopenia with thrombocytopenia	ND	ND	+	+	22	1.26	1.10	0.60	-	-	-	-	-	135	4.9	
60	819744	16	42	4400	78	12	10	-	-	134	98	72	68	44	36	107	-	nil	Neutrophilia with thrombocytopenia	ND	ND	+	-	21	1.00	1.02	-	-	-	-	-	-	141	3.9	
61	818302	10	29	3100	77	13	10	-	-	35	42	77	35	64	102	135	-	nil	Pancytopenia	1.04	0.1	-	+	10	0.67	1.20	1.22	0.92	1.02	1.00	0.84	136	3.44		
62	818749	16	44	11800	55	34	10	-	-	30	44	58	74	99	113	127	140	-	Thrombocytopenia	ND	ND	-	+	23	1.07	0.92	-	-	-	-	-	-	138	4	
63	818083	14	42	2700	67	27	6	-	-	36	21	26	76	84	100	-	-	2rdp	Normocytic normochromic	ND	ND	+	-	22	0.80	0.82	-	-	-	-	-	-	138	4.46	
64	818388	13	38	2000	62	29	9	-	-	157	102	121	-	-	-	-	-	no	n	ND	ND	+	-	10	0.62	0.64	-	-	-	-	-	-	138	4.39	
65	818155	18	40	3600	56	35	9	-	-	54	22	33	57	69	108	-	-	2rdp	Leucopenia with thrombocytopenia	ND	ND	+	-	43	1.66	1.02	-	-	-	-	-	-	126	3.85	
66	818720	16	36	2600	50	40	9	-	-	28	18	19	31	68	90	188	-	1sdp	Leucopenia with thrombocytopenia	1.12	1.1	+	-	21	1.35	1.22	-	-	-	-	-	-	132	5.19	
67	818126	16	38	7700	82	10	8	-	-	174	141	148	-	-	-	-	-	no	Neutrophilia	ND	ND	-	+	33	0.99	0.86	-	-	-	-	-	-	134	3.88	
68	818127	18	40	4500	44	43	10	-	-	12	16	18	34	50	88	-	-	1sdp	Thrombocytopenia with poicythemia	ND	ND	-	+	37	0.92	0.86	-	-	-	-	-	-	139	3.68	
69	818608	15	42	3700	21	19	10	-	-	149	111	84	91	114	-	-	-	no	leucopenia	ND	ND	+	-	19	1.51	1.42	-	-	-	-	-	-	137	4.53	
70	818034	16	44	3700	48	42	9	-	-	184	163	187	-	-	-	-	-	no	leucopenia	ND	ND	-	+	21	0.85	0.82	-	-	-	-	-	-	135	4.21	
71	817818	14	40	15500	68	23	6	-	-	66	64	250	-	-	-	-	-	no	Thrombocytopenia	ND	ND	+	-	26	0.75	0.74	-	-	-	-	-	-	134	4.5	
72	818132	15	38	4900	55	36	8	-	-	11	29	80	80	174	255	-	-	1sdp	Thrombocytopenia	ND	ND	+	-	18	0.88	0.86	-	-	-	-	-	-	138	4.24	
73	813334	17	42	5400	74	16	10	-	-	96	101	100	107	-	-	-	-	no	Thrombocytopenia	ND	ND	+	-	16	1.28	1.02	-	-	-	-	-	-	135	3.9	
74	822575	10	28	2700	75	22	3	-	-	116	124	137	144	233	-	-	-	no	Pancytopenia	1.23	1.18	-	+	23	0.90	1.06	0.84	-	-	-	-	-	124	3.65	
75	822134	13	32	4600	59	35	5	-	-	36	40	49	75	99	-	-	-	4rdp	Thrombocytopenia	ND	ND	-	+	12	0.64	0.62	-	-	-	-	-	-	138	4.5	
76	821589	14	40	5700	17	81	-	-	-	16	17	27	67	183	-	-	-	1sdp	Lymphocytosis with thrombocytopenia	ND	ND	-	+	32	0.62	0.64	0.48	-	-	-	-	-	136	4.26	
77	820584	14	40	7200	43	46	10	-	-	19	67	82	97	89	119	-	-	1sdp	Lymphocytosis with thrombocytopenia	1.06	ND	+	-	46	1.45	1.24	-	-	-	-	-	-	138	5.07	
78	819819	16	44	7100	72	20	-	-	-	38	66	119	165	219	-	-	-	no	Thrombocytopenia	ND	ND	-	+	13	0.93	0.82	-	-	-	-	-	-	142	4.03	
79	809211	13	40	5700	81	9	10	-	-	222	164	176	163	-	-	-	-	no	n	ND	ND	+	-	19	0.79	0.62	-	-	-	-	-	-	136	4	
80	805584	12	38	7100	61	29	10	-	-	31	48	48	57	68	-	-	-	no	Thrombocytopenia	ND	ND	+	+	37	0.86	0.76	-	-	-	-	-	-	130	4.8	
81	805813	14	44	2400	40	50	8	-	-	85	79	157	-	-	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	10	0.63	0.62	-	-	-	-	-	-	131	3.36	
82	804391	14	46.8	8070	64	31	3	-	-	159	208	250	-	-	-	-	-	no	n	ND	ND	-	+	23	1.20	1.02	-	-	-	-	-	-	138	4.9	

Serial number	In patient number	Laboratory investigations																	Outcome									
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest X-ray	USG abdomen					ECG	Kidney biopsy SOS	Final diagnosis	Duration of hospital stay	Mortality	AKI	Other Complications		
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size	Ascites									
42	823515	23	0.65	0.36	275	125	3.5	47	116	A	A	A	ND	n	n	n	n	n	A	n	ND	DHF	5	I	-	-	-	
43	823919	19	0.47	0.66	2825	1211	3.7	61	132	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	5	I	-	-	-	
44	823992	24	0.27	0.14	28	60	3.6	90	89	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-	
45	823968	26	1.97	0.99	16	13	4	45	116	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-	-	
46	823893	19	1.7	1.49	140	36	2.8	100	213	2+	A	A	ND	ARDS	n	Th	Hpg	1	P	Tachy	ND	DHF	7	I	-	-	-	
47	822448	22	5	3.99	36	25	4.2	42	87	trace	A	A	ND	n	n	n	n	n	A	Tachy	ND	DF	5	I	-	-	-	
48	822521	24	0.76	0.14	132	85	3.8	40	79	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
49	822256	14	2	1	49	45	2.6	92	60	A	A	A	ND	n	n	Th	Hpg	1	P	n	ND	DSS	7	I	+	-	Encephalitis	
50	821661	20	2.12	1.33	91	77	3.5	90	102	1+	A	A	ND	n	n	Th	Hpg	1	P	n	ND	DHF	6	I	-	-	-	
51	821437	22	0.6	0.23	72	41	4	102	103	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	7	I	-	-	-	
52	802531	18	7.6	6.5	88	71	3.2	90	100	1+	A	A	ND	n	n	Spq	n	Hpg	n	A	n	ND	DHF	5	I	-	-	-
53	802209	20	0.5	0.2	237	129	4	92	98	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
54	806348	24	0.44	0.2	30	112	4.2	90	92	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	-	
55	820503	26	0.99	0.57	80	40	4.2	120	174	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	-	-	-	
56	820545	24	0.65	0.14	46	73	4	90	97	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
57	829701	22	0.91	0.85	1836	676	4	320	313	1+	A	A	ND	n	n	Th	n	n	P	Old IHD	ND	DF	32	I	-	-	-	
58	819765	18	0.25	0.09	59	50	4	50	98	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
59	819800	21	0.69	0.53	1149	595	3.9	71	86	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
60	819744	24	0.52	0.24	89	41	3.8	90	99	A	A	A	ND	n	n	n	n	n	A	SB	ND	DF	6	I	-	-	-	
61	818302	24	2.05	1.41	107	45	4.2	102	119	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	12	I	-	-	Hepatitis	
62	818749	23	0.68	0.2	92	58	4.5	67	94	A	A	A	ND	n	n	n	n	n	A	SB	ND	DF	8	I	-	-	-	
63	818083	18	0.41	0.18	190	155	3.1	173	118	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	
64	818388	21	0.49	0.1	45	30	4	50	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
65	818155	23	1.13	0.82	154	44	4.2	84	79	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	
66	818720	24	1.64	1.46	718	495	4	75	90	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	Hepatitis	
67	818126	20	1	0.42	112	61	3.8	58	126	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-	-	
68	818127	22	0.4	0.2	46	31	3.4	63	126	A	A	A	ND	Pleural effusion	n	Th	n	n	P	n	ND	DHF	11	I	-	-	-	
69	818608	19	0.19	0.12	35	17	4.1	57	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
70	818034	18	0.53	0.2	68	60	3.8	131	103	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-	
71	817818	26	1.11	0.1	20	13	3.5	56	71	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	
72	818132	21	0.52	0.24	190	100	3.3	66	128	A	A	A	ND	n	n	n	n	n	A	n	ND	DHF	6	I	-	-	-	
73	813334	22	0.46	0.17	45	46	4.4	53	101	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
74	822575	18	1.14	0.82	99	64	2.7	314	124	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-	-	
75	822134	22	0.33	0.18	72	59	3.4	39	148	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	-	-	-	
76	821589	24	0.61	0.36	570	482	3.6	81	140	4+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
77	820584	25	2.77	2.47	2433	911	4	222	275	1+	A	A	ND	n	n	Spq	Th	Hpg	n	P	n	ND	DHF	6	I	-	-	-
78	819819	23	0.88	0.41	137	86	3.5	170	131	A	A	A	ND	ARDS	n	n	n	n	n	A	SB	ND	DHF	5	I	-	-	-
79	809211	16	0.47	0.17	31	26	4.6	55	114	A	P	A	ND	n	n	n	n	n	A	n	ND	DHF	4	I	-	-	-	
80	805584	18	2.43	1.92	2246	973	2.6	177	75	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
81	805813	20	0.27	0.1	63	24	3.4	74	130	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
82	804391	22	0.4	0.2	47	34	3.4	89	127	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	

Serial number	In patient number	Demographic data			History															Physical Examination								Systemic examination				Systemic examination													
		Age (Years)	Sex	Occupation	Present history										Past history					Personal history	Vitals				General condition				Respiratory system	Cardiovascular system	Per abdomen	Central nervous system													
					Fever	Vomiting	Nausea	Myalgia	Joint pains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Matena	Hematemesis	SCH	Bleeding gums		Previous hospitalization	DM/Nephropathy	Hypertensive nephropathy	CKD/others	Other infection diseases																				
																									Malaria	Enteric fever	NSAIDS usage	PR (b/m)					BP		RR (/m)	Temperature (OF)	Pallor	Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes			
Systolic (mm Hg)	Diastolic (mm Hg)																																												
83	804740	26	m	driver	4	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	120	70	16	98.2	A	A	A	A	A	P	n	n	n	n	
84	806733	18	f	St	5	-	-	5	-	5	-	-	-	n	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	84	100	70	16	98.2	A	A	A	A	A	A	n	n	n	n
85	806423	21	m	St	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	70	15	98.2	A	A	A	A	A	A	n	n	n	n
86	809210	36	f	hw	4	-	-	4	-	4	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	100	60	18	98.2	A	A	A	A	A	A	n	n	n	n
87	801446	34	m	fm	4	-	-	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n
88	803194	19	m	St	2	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	54	100	60	18	98.2	A	A	A	A	A	A	n	n	n	n
89	803440	32	f	fm	4	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	80	18	98.2	A	A	A	A	A	A	n	n	n	n
90	803274	26	m	fm	4	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	82	110	70	18	98.2	P	A	A	A	A	A	n	n	n	n
91	803875	18	f	St	3	-	-	3	3	3	-	-	-	n	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	122	96	50	18	100	A	A	A	A	A	A	n	n	n	n
92	808164	25	m	St	4	-	-	2	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	120	70	16	98.2	A	A	A	A	A	A	n	n	n	n
93	813693	21	m	St	4	-	-	4	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n
94	812534	18	m	St	3	-	-	3	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	18	98.2	A	A	A	A	A	A	n	n	n	n
95	812264	18	m	St	3	-	-	-	-	1	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	70	16	100	A	A	A	A	A	P	n	n	n	n
96	813720	32	f	hw	6	1	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	100	70	18	100	A	A	A	A	A	A	n	n	n	n
97	813413	19	m	St	3	3	3	-	-	3	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	100	A	A	A	A	A	A	n	n	n	n
98	819987	18	m	St	5	5	5	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	100	70	16	100	A	A	A	A	A	A	n	n	n	n
99	809016	27	m	Bs	2	2	2	2	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	120	70	16	101	A	A	A	A	A	A	n	n	n	n
100	808626	22	m	police	4	-	-	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	130	70	16	101	A	P	A	A	A	A	n	n	n	n
101	812437	25	m	Bs	4	-	-	4	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n
102	809478	35	m	hw	2	-	-	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	60	16	101	A	A	A	A	A	A	n	n	n	n
103	809859	21	m	St	4	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	120	80	16	98.2	A	A	A	A	A	A	n	n	n	n
104	809867	47	f	Unsk	2	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	130	80	17	98.2	A	A	A	A	A	P	n	n	n	n
105	809551	38	m	fm	3	-	-	3	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	20	100	A	A	A	A	A	A	n	n	n	n
106	809934	30	m	Unsk	5	-	-	3	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n
107	809297	25	m	St	5	-	-	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	140	100	16	98.2	A	A	A	A	A	A	n	n	n	n
108	808429	18	m	St	2	-	-	2	2	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	126	80	16	100	A	A	A	A	A	A	n	n	n	n
109	809177	21	m	St	8	-	-	8	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	110	70	16	100	A	A	A	A	A	A	n	n	n	n
110	817710	19	m	St	4	-	-	3	-	-	-	-	-	n	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	46	100	60	16	98.2	A	A	A	A	P	P	n	n	n	n
111	815480	18	m	St	3	-	-	2	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	60	16	98.2	A	A	A	A	A	A	n	n	n	n
112	810419	52	f	hw	2	-	-	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	110	70	18	98.2	A	A	A	A	A	A	n	n	n	n
113	811516	18	m	St	4	-	-	1	1	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	60	15	100	A	A	A	A	A	A	n	n	n	n
114	812196	24	m	fm	3	-	-	3	3	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n
115	811755	21	f	St	5	-	-	-	-	5	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	104	80	16	101	A	A	A	A	A	A	n	n	n	n
116	811987	35	m	Bs	5	-	-	5	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	150	80	16	101	A	A	A	A	P	P	n	n	n	n
117	812319	48	f	hw	4	3	3	-	-	5	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	120	70	16	98.2	A	A	A	A	A	A	n	n	n	n
118	812749	26	f	Unsk	5	2	2	5	-	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	120	80	16	98.2	A	A	A	A	A	A	n	n	n	n
119	819805	24	f	hw	3	-	-	-	-	4	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	100	60	30	98.2	A	A	A	P	A	n	n	n	n	
120	820168	19	m	St	4	-	-	-	-	4	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	80	60	22	98.2	A	A	A	A	A	P	n	n	n	n
121	819514	45	f	hw	1	1	1	-	-	1	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	60	40	16	98.2	A	A	A	A	A	A	n	n	n	n
122	820835	26	f	hw	2	1	1	2	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	110	80	18	101	A	A	A	A	A	A	n	n	n	n
123	820830	34	m	Bs	5	-	-	-	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	136	96	16	100	A	A	A	A	A	A	n	n	n	n

Serial number	In patient number	Laboratory investigations															Final diagnosis	Outcome										
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest Xray	USG abdomen					ECG	Kidney biopsy SOS	Duration of hospital stay	Mortality	AKI	Other Complications			
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness		Liver	Kidney size							Ascites	Tachy	SB
83	804740	22	0.6	0.2	134	76	3.8	86	100	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-		
84	806733	14	0.18	0.04	41	27	3.6	103	149	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
85	806423	21	0.4	0.26	129	51	3.6	36	107	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	2	I	-	-		
86	809210	13	0.5	0.24	261	189	3.8	203	226	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
87	801446	22	0.8	0.4	275	213	3.8	64	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
88	803194	24	0.67	0.33	59	21	3.5	63	103	A	A	A	ND	n	n	Th	n	n	P	SB	ND	DHF	6	I	-	-		
89	803440	20	0.37	0.14	105	72	3.7	83	80	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
90	803274	24	0.9	0.3	85	21	3.5	56	75	3+	A	A	ND	n	n	n	n	n	A	n	ND	DHF	7	I	-	-		
91	803875	21	1.41	0.54	90	28	2.8	67	92	A	A	A	ND	n	n	n	n	n	A	Tachy	ND	DHF	8	I	-	-		
92	808164	26	0.42	0.22	98	79	4	33	169	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
93	813693	24	0.75	0.37	34	22	4.3	50	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-		
94	812534	24	0.43	0.16	129	88	4.3	50	88	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
95	812264	19	0.42	0.23	59	18	3.8	154	95	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-		
96	813720	25	0.2	0.09	306	156	3.9	82	92	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-		
97	813413	22	0.4	0.19	112	83	3.7	220	119	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-		
98	819987	23	0.19	0.1	155	55	4.2	227	103	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-		
99	809016	25	0.79	0.39	104	62	4	84	107	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	-	-		
100	808626	24	2.97	2.11	339	247	4.9	70	120	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-		
101	812437	28	0.71	0.41	250	130	3.7	62	109	3+	A	A	ND	n	n	n	n	n	P	n	ND	DF	8	I	-	-		
102	809478	20	0.79	0.45	13	12	2.7	50	131	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-		
103	809859	24	0.83	0.1	136	59	3.5	64	118	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-		
104	809867	26	0.64	0.21	74	123	3.8	94	122	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
105	809551	26	1.15	0.35	125	35	3.8	94	158	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-		
106	809934	22	0.46	0.2	79	39	3	65	214	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
107	809297	25	0.59	0.22	86	58	3.6	126	157	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
108	808429	23	0.76	0.25	93	82	3.9	121	290	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-		
109	809177	23	0.7	0.22	127	61	3.8	65	89	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
110	817710	23	1.16	0.64	98	72	3.4	85	122	trace	A	A	ND	n	n	Th	n	n	P	SB	ND	DF	4	I	-	-		
111	815480	21	0.7	0.4	71	25	4.1	186	115	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
112	810419	26	0.26	0.21	270	120	3.1	105	106	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
113	811516	19	1	0.41	131	107	3.9	213	94	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
114	812196	20	0.82	0.72	62	21	3.8	88	108	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-		
115	811755	18	0.42	0.2	88	19	4.2	73	144	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-		
116	811987	20	0.6	0.5	290	205	3.8	86	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
117	812319	22	0.82	0.76	581	434	3.8	960	109	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
118	812749	19	0.37	0.2	62	32	3.9	93	118	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
119	819805	22	0.62	0.54	58	151	3.2	85	194	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-		
120	820168	17	0.68	0.37	210	70	3.4	136	190	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-		
121	819514	12	0.4	0.09	29	26	2.8	89	244	A	A	A	ND	n	n	Th	n	n	P	Tachy	ND	DF	6	I	-	-		
122	820835	24	0.32	0.14	38	38	4.3	42	82	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-		
123	820830	26	0.63	0.27	41	28	4.2	92	118	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-		

Serial number	In patient number	Demographic data			History																	Physical Examination											Systemic examination			Systemic examination										
		Age (Years)	Sex	Occupation	Present history										Past history							Personal history	Vitals					General condition						Respiratory system	Cardiovascular system	Per abdomen	Central nervous system									
					Fever	Vomiting	Nausea	Myalgia	Jointpains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Melena	Hematemesis	SCH	Bleeding gums	Previous hospitalization	DM/Nephropathy		Hypertensive nephropathy	CKD/others	Malaria	Other infection diseases	NSAIDS usage	PR (b/min)	BP		RR (/m)	Temperature (0F)	Pallor					Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes				
124	821673	38	m	Bs	8	-	-	-	-	-	8	-	-	-	n	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-				-	94	100	80						20	100	A	A
125	821829	45	m	Lecturer	4	-	-	-	-	-	n	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	106	160	100	18	100	A	A	A	A	A	A	n	n	n	n
126	812339	19	m	St	5	-	-	5	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	60	16	98.2	A	A	A	A	A	A	n	n	n	n	
127	818130	18	m	St	5	5	5	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	106	70	13	98.2	A	A	A	A	A	A	n	n	n	n	
128	814116	18	m	St	4	-	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91	100	70	16	98.2	A	A	A	A	A	A	n	n	n	n	
129	814242	35	m	Unsk	5	2	2	-	-	-	-	-	-	-	n	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	88	136	84	16	98.2	A	A	A	A	A	A	n	n	n	n	
130	814052	21	m	St	2	2	2	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98.2	A	P	A	A	A	A	n	n	n	n	
131	814201	21	m	St	5	-	-	5	-	-	-	-	-	-	n	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	88	110	80	16	98.2	A	A	A	A	P	P	n	n	n	n	
132	814155	35	m	Unsk	4	-	-	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	100	80	20	100	A	A	A	A	P	A	n	n	n	n	
133	810791	23	m	St	3	-	-	-	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	90	16	98.2	A	A	A	A	A	A	n	n	n	n	
134	811515	22	m	St	6	-	-	5	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	90	16	102	A	A	A	A	A	A	n	n	n	n	
135	813935	18	m	St	4	-	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	112	102	60	18	101	A	P	A	A	A	A	n	n	n	n	
136	814076	27	m	fm	4	-	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	80	120	70	16	101	A	A	A	A	P	A	n	n	n	n	
137	814652	26	m	Sk	4	-	-	-	4	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	100	60	24	98.2	A	A	A	A	P	A	n	n	Tenderness	n	
138	814289	22	f	St	4	-	-	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	80	16	101	A	A	A	A	A	A	n	n	n	n	
139	814556	22	m	St	4	6	6	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n	
140	814347	19	m	St	4	4	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	20	98.2	A	A	A	A	A	A	n	n	n	n	
141	814600	30	m	Engineer	4	-	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	150	80	16	98.2	A	A	A	A	A	A	n	n	n	n	
142	814944	30	f	St	5	-	-	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	20	98.2	A	A	A	A	A	A	n	n	n	n	
143	814821	35	m	fm	4	-	-	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	114	70	16	98.2	A	A	A	A	A	A	n	n	n	n	
144	814836	29	m	Engineer	5	-	-	-	5	5	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	130	90	16	98.2	A	A	A	A	A	A	n	n	n	n	
145	832642	27	f	hw	3	-	-	3	-	3	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	90	16	101	A	A	A	A	A	P	n	n	n	n	
146	813800	18	m	St	5	5	5	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	90	16	98.2	A	A	A	A	P	P	n	n	n	n	
147	813287	23	m	Unsk	4	-	-	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	90	14	98.2	A	A	A	A	P	P	n	n	n	n	
148	827568	46	f	Bs	7	-	-	7	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	140	80	18	101	A	A	A	A	A	A	n	n	n	n	
149	827271	35	f	Bs	5	-	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	96	130	60	18	101	A	A	A	A	A	A	n	n	hepatomegaly	n	
150	826840	19	m	St	6	-	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	120	70	18	100	A	A	A	A	A	A	n	n	n	n	
151	826482	44	m	Teacher	3	3	3	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	150	90	18	98.2	A	A	A	A	A	A	n	n	n	n
152	822598	25	m	fm	7	2	2	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n	
153	822425	28	m	Unsk	4	4	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98.2	A	A	A	A	A	A	n	n	n	n	
154	822753	31	f	hw	1	-	-	-	-	2	-	-	-	-	n	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	88	140	90	18	101	A	A	A	A	A	A	n	n	n	n	
155	823219	29	f	hw	5	-	-	-	3	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	120	80	16	98.2	A	A	A	A	A	A	n	n	n	n	
156	818316	23	m	fm	8	-	-	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	120	80	14	98.2	A	A	A	A	A	A	n	n	n	n	
157	822020	28	m	St	4	1	1	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n	
158	818525	19	m	St	2	4	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	72	120	80	14	98.2	A	A	A	A	A	A	n	n	n	n	
159	813728	26	m	St	4	-	-	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	80	18	100	A	A	A	A	A	A	n	n	n	n	
160	814807	18	f	St	10	-	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	96	110	80	19	98.2	A	A	A	A	A	A	n	n	n	n	
161	815285	23	f	St	4	-	-	4	-	-	-	-	-	-	n	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	90	110	80	18	98.2	A	A	A	A	A	A	n	n	n	n	
162	815644	19	f	St	2	2	2	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	120	80	16	101	A	A	A	A	A	A	n	n	n	n	
163	815430	18	m	St	4	4	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	80	18	98.2	A	A	A	A	A	A	n	n	n	n	
164	830635	41	m	Unsk	4	-	-	3	-	3	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	120	80	18	98.2	A	A	A	A	A	A	n	n	n	n	

Serial number	In patient number	Laboratory investigations																	Outcome								
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest X-ray	USG abdomen					ECG	Kidney biopsy SOS	Final diagnosis	Duration of hospital stay	Mortality	AKI	Other Complications	
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size	Ascites								
124	821673	20	0.9	0.5	351	130	3.6	92	122	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-
125	821829	22	0.33	0.15	138	111	3.8	94	116	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-
126	812339	22	1.02	0.9	60	52	3.8	87	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	11	I	-	-	-
127	818130	23	0.44	0.07	1100	377	3.4	185	95	3+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
128	814116	24	0.73	0.29	23	10	4.6	262	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
129	814242	22	0.79	0.56	1003	712	4.5	164	250	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	4	I	-	-	-
130	814052	23	2.93	2.69	138	114	3.3	305	117	1+	A	A	ND	n	Spg	Th	Hpg	n	P	n	ND	DF	7	I	-	-	-
131	814201	23	0.82	0.33	532	536	4.4	53	107	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-
132	814155	24	0.35	0.1	92	42	4	59	171	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	-
133	810791	22	0.3	0.2	41	21	3.8	57	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
134	811515	24	1.76	1.29	86	60	3.8	96	101	1+	A	A	ND	n	Spg	n	n	n	A	n	ND	DF	4	I	-	-	-
135	813935	20	2.42	1.94	95	70	3.3	187	95	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
136	814076	24	4.82	2.81	78	35	3.8	102	107	2+	A	A	ND	n	Spg	n	n	n	P	n	ND	DHF	9	I	-	-	-
137	814652	19	0.34	0.12	136	81	3.7	87	212	1+	A	A	ND	n	n	Th	n	n	P	SB	ND	DHF	9	I	-	-	-
138	814289	24	0.2	0.1	62	50	3.6	279	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
139	814556	21	0.45	0.1	90	68	4.2	70	102	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
140	814347	23	2.13	0.83	53	30	4.5	59	185	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
141	814600	25	1.35	0.81	152	157	4.5	155	126	trace	A	A	ND	n	Spg	n	Hpg	n	A	n	ND	DF	4	I	-	-	-
142	814944	22	0.82	0.7	50	42	4.2	100	103	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-
143	814821	20	0.48	0.1	107	77	3.6	196	104	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	+	-	-
144	814836	24	0.1	0.4	72	56	3.8	110	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
145	832642	23	0.31	0.11	25	24	3.6	96	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
146	813800	26	0.43	0.2	46	29	3.8	87	149	trace	A	A	ND	n	Spg	Th	n	n	P	n	ND	DHF	6	I	-	-	-
147	813287	18	0.5	0.2	33	32	3.8	144	110	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	7	I	-	-	-
148	827568	22	0.21	0.14	60	119	3.7	60	167	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
149	827271	20	2.56	1.18	236	194	2.9	97	95	A	A	A	ND	n	Spg	n	Hpg	n	P	n	ND	DF	6	I	-	-	-
150	826840	22	0.5	0.2	32	28	4.2	211	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
151	826482	21	0.49	0.21	43	38	4.3	64	95	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-
152	822598	28	0.43	0.2	55	36	4.1	56	103	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-
153	822425	24	0.9	0.2	28	23	3.8	50	101	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-
154	822753	23	0.6	0.2	52	46	3.9	56	146	A	A	A	ND	n	n	Th	Hpg	n	P	SB	ND	DHF	5	I	-	-	-
155	823219	24	0.9	0.2	17	11	4.2	56	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
156	818316	20	1.78	0.59	45	37	3.8	40	96	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-	-
157	822020	24	0.35	0.19	60	24	3.7	70	126	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-	-
158	818525	23	0.76	0.51	77	48	3.6	77	115	1+	A	A	ND	n	n	n	n	n	A	n	ND	DHF	5	I	-	-	-
159	813728	24	0.7	0.13	40	35	4.8	88	99	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-	-
160	814807	24	0.14	0.1	33	44	1.8	35	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-
161	815285	20	0.9	0.2	56	43	3.8	56	102	3+	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-	-
162	815644	20	0.78	0.37	44	28	3.7	37	124	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-	-
163	815430	20	0.6	0.2	175	139	4	56	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
164	830635	22	1.38	0.72	344	231	3.7	78	218	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-	-

Serial number	In patient number	Demographic data			History															Physical Examination								Systemic examination			Systemic examination																	
		Age (Years)	Sex	Occupation	Present history										Past history					Personal history	Vitals				General condition				Respiratory system	Cardiovascular system	Per abdomen	Central nervous system																
					Fever	Vomiting	Nausea	Myalgia	Joint pains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Melenas	Hematemesis	SCH	Bleeding gums		Previous hospitalization	DM/Nephropathy	Hypertensive nephropathy	CKD/others	Other infection diseases																							
																									Malaria	Enteric fever	NSAIDS usage	PR (b/m)					BP		RR (/m)	Temperature (OF)	Pallo	Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes						
Systolic (mm Hg)	Diastolic (mm Hg)	RR (/m)	Temperature (OF)	Pallo	Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system																																			
165	830957	31	m	nurse	2	-	-	2	1	-	1	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	18	99	A	A	A	A	A	A	n	n	n	n
166	830942	27	m	fm	5	-	-	2	-	2	2	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	110	70	18	101	A	A	A	A	A	A	n	n	n	n	
167	830994	24	m	Engineer	6	-	-	5	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	140	80	18	98.2	A	A	A	A	A	P	n	n	n	n	
168	832690	44	m	Bs	4	-	-	4	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	120	70	16	98.2	A	A	A	A	A	A	n	n	n	n	
169	833306	23	m	St	5	-	-	4	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	110	80	16	98.2	A	A	A	A	P	P	n	n	n	n	
170	834490	18	m	St	3	2	2	-	-	-	-	-	n	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	98	60	18	101	A	A	A	A	A	A	n	n	n	n	
171	831291	23	f	Engineer	2	-	-	-	2	-	2	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	130	80	18	101	A	A	A	A	A	A	n	n	n	n	
172	830686	20	m	St	4	-	-	-	-	-	-	-	n	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	130	80	18	98.2	A	A	A	A	A	A	n	n	n	n	
173	830000	33	m	Bs	5	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92	100	70	16	98.2	A	A	A	A	A	A	n	n	n	hepatomegaly	
174	830949	25	m	St	6	1	1	-	-	-	2	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	90	70	18	98.2	A	A	A	A	A	A	n	n	n	n	
175	828113	36	f	hw	4	-	-	4	4	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	16	98	A	A	A	A	A	A	n	n	n	n	
176	828094	18	f	St	5	1	1	-	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	100	70	18	102	P	A	A	A	A	A	n	n	n	n	
177	828906	18	m	St	5	1	1	-	-	-	-	-	n	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	90	60	18	101	A	A	A	A	A	A	n	n	n	n	
178	828938	19	m	St	7	-	-	-	1	-	-	-	n	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	110	80	18	101	P	A	A	A	A	A	n	n	n	n	
179	828898	18	m	St	4	-	-	4	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	110	70	19	98.2	A	A	A	A	A	A	n	n	n	n	
180	829948	21	m	St	7	-	-	7	-	7	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	160	70	18	100	A	A	A	A	A	A	n	n	n	n	
181	831834	18	m	St	5	1	1	5	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	100	60	16	100	A	A	A	A	A	A	n	n	n	n	
182	831371	24	m	Unsk	4	2	2	-	-	-	1	-	n	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	18	98	A	A	A	A	A	A	n	n	n	n	
183	831656	28	m	Bs	4	4	4	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	18	95.2	A	A	A	A	A	A	n	n	n	n	
184	836214	18	f	St	2	-	-	-	-	-	-	-	n	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	110	60	16	98.2	A	A	A	A	A	A	n	n	n	n	
185	836145	26	m	St	3	2	2	-	-	3	-	-	n	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	110	70	18	101	A	A	A	A	P	A	n	n	n	n	
186	835951	18	m	St	3	-	-	-	-	-	-	-	n	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	120	80	16	98.2	A	A	A	A	A	A	n	n	n	n	
187	829547	50	m	Bs	8	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	120	70	18	98.2	A	A	A	A	A	A	n	n	n	n	
188	831957	25	f	St	3	3	3	3	-	3	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	110	70	16	101	A	A	A	A	A	A	n	n	n	n	
189	829701	70	m	Advoc	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	130	90	22	98.2	A	A	A	A	A	A	n	n	n	n	
190	828354	62	m	fm	4	-	-	2	-	1	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	70	20	98.6	A	A	A	A	A	A	n	n	n	n	
191	828932	65	m	Bs	5	4	4	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	120	80	20	98.2	A	A	A	A	A	A	n	n	n	n	
192	809172	63	m	Bs	6	-	-	6	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	130	86	16	98.2	A	A	A	A	A	A	n	n	n	n	
193	821908	65	m	fm	20	1	1	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	100	60	16	100	A	A	A	A	A	A	n	n	n	hepatomegaly	
194	822052	68	f	hw	5	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	110	70	21	98.2	A	A	A	A	A	A	n	n	n	n	
195	826733	60	m	fm	8	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	90	70	20	98	A	A	A	A	A	A	n	n	n	n	
196	826330	62	m	fm	2	-	-	-	-	-	2	D	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	130	90	21	98.2	A	A	A	A	A	A	n	n	n	n	
197	815787	62	m	fm	6	-	-	-	-	6	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	110	70	20	98.2	A	A	A	A	A	A	n	n	n	n	
198	809551	38	m	Unsk	4	-	-	4	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	70	16	98.2	A	A	A	A	A	A	n	n	n	n	
199	843351	27	f	Artist	5	1	1	-	-	3	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	70	18	98.2	A	A	A	A	A	A	n	n	n	n	
200	844091	18	m	St	5	5	5	-	-	5	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	70	16	100	A	A	A	A	A	A	n	n	n	n	
201	843633	28	f	St	5	-	-	5	-	5	-	-	n	-	-	3	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	78	100	60	16	98.6	A	A	A	A	A	A	n	n	n	Tenderness	
202	843651	24	m	St	8	-	-	8	-	4	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	120	80	16	98.2	A	A	A	A	A	A	n	n	n	n	
203	840038	60	m	fm	6	-	-	6	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	120	80	16	100	A	A	A	A	A	A	n	n	n	n	
204	837219	23	m	Bs	4	1	1	-	-	-	-	-	n	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	120	80	18	98.2	A	A	A	A	A	A	n	n	n	n	
205	837969	42	f	hw	3	-	-	-	-	1	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	130	90	18	101	A	A	A	A	A	A	n	n	n	n	

Serial number	In patient number	Laboratory investigations																	Outcome								
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest X-ray	USG abdomen					ECG	Kidney biopsy SOS	Final diagnosis	Duration of hospital stay	Mortality	AKI	Other Complications	
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size	Ascites								
165	830957	20	0.78	0.1	54	47	4.2	70	123	A	A	A	ND	n	Spg	Th	n	n	P	n	ND	DF	9	I	-	-	-
166	830942	23	0.45	0.18	65	32	3.4	69	130	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	-
167	830994	22	0.66	0.27	65	61	4	88	88	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-
168	832690	21	0.55	0.33	48	16	4.6	65	102	trace	A	A	ND	n	n	n	Hpg	n	A	n	ND	DF	8	I	-	-	-
169	833306	24	0.56	0.3	325	187	3.6	74	154	A	A	A	ND	n	n	n	n	n	A	n	ND	DHF	5	I	-	-	-
170	834490	19	1.52	1.04	626	334	3	153	245	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	7	I	-	-	-
171	831291	22	0.66	0.34	234	156	3.8	54	189	A	A	A	ND	n	n	n	n	n	A	SB	ND	DF	6	I	-	-	-
172	830686	26	0.67	0.32	168	70	3.4	78	137	2+	A	A	ND	n	n	n	n	n	A	SB	ND	DHF	6	I	-	-	-
173	830000	27	0.27	0.18	20	17	3.5	92	95	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-	-
174	830949	23	1.03	0.59	73	48	3.1	80	108	A	A	A	ND	n	n	Th	n	n	A	n	ND	DSS	6	I	+	-	-
175	828113	20	0.5	0.1	127	83	3.4	73	93	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
176	828094	20	0.99	0.74	181	99	3.6	73	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
177	828906	23	0.16	0.11	157	55	3.9	127	99	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	7	I	-	-	-
178	828938	26	0.4	0.1	50	32	3.2	98	88	A	A	A	ND	n	n	Th	n	n	P	SB	ND	DHF	6	I	-	-	-
179	828898	24	0.5	0.1	67	17	3.9	136	139	A	A	A	ND	n	n	n	n	n	A	SB	ND	DF	5	I	-	-	-
180	829948	24	0.39	0.1	71	40	4	75	86	A	A	A	ND	n	Spg	Th	n	n	P	n	ND	DHF	14	I	-	-	-
181	831834	19	1.67	0.4	20	11	4.6	76	98	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	10	I	-	-	-
182	831371	19	0.86	0.24	1600	864	4.2	96	102	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	10	I	-	-	-
183	831656	22	1.01	0.7	921	362	3.7	128	162	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-	-
184	836214	17	0.71	0.64	265	116	2.3	140	90	A	A	A	ND	n	n	n	n	n	P	n	ND	DHF	5	I	-	-	-
185	836145	17	0.75	0.3	229	138	3.8	65	105	2+	A	A	ND	n	n	Th	Hpg	n	P	n	ND	DHF	6	I	-	-	-
186	835951	20	0.57	0.33	327	219	4.6	128	170	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
187	829547	21	0.48	0.27	111	77	3.9	68	163	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
188	831957	18	0.95	0.4	448	272	4	205	131	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	10	I	-	-	-
189	829701	16	0.91	0.85	1836	676	3.5	145	313	1+	A	A	ND	n	n	n	n	l	A	Old IHD	ND	DF	33	I	+	-	-
190	828354	19	0.94	0.4	115	95	3.4	171	85	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	11	I	-	-	-
191	828932	22	8.27	7.92	52	43	2.6	244	138	1+	A	A	ND	n	Spg	Th	Hpg	l	A	n	ND	DF	4	I	+	-	-
192	809172	20	0.63	0.08	196	126	3.4	100	102	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
193	821908	22	0.45	0.26	130	41	4	102	100	trace	A	A	ND	n	n	n	n	l	A	n	ND	DF	8	I	-	-	-
194	822052	17	0.3	0.2	95	28	3.7	90	138	1+	A	A	ND	n	n	n	n	n	A	Old IHD	ND	DF	11	I	-	-	-
195	826733	20	1.82	1.68	66	65	3.1	176	595	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	13	I	-	-	-
196	826330	22	1.47	1.16	18	12	3.4	212	149	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	10	I	+	-	-
197	815787	24	1.1	0.69	162	151	3.8	170	171	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	9	I	-	-	-
198	809551	21	0.15	0.35	125	35	3.1	51	158	A	A	A	ND	n	n	Th	n	n	A	n	ND	DF	7	I	-	-	-
199	843351	24	0.59	0.14	276	85	4.2	51	158	2+	A	A	ND	n	n	Th	n	n	A	n	ND	DF	7	I	-	-	-
200	844091	23	0.3	0.12	181	63	3.8	200	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-
201	843633	21	0.44	0.21	184	68	3.2	74	172	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	4	I	-	-	-
202	843651	25	1.34	0.68	206	113	3.8	72	91	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-
203	840038	22	0.4	0.1	105	43	3.1	130	97	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-
204	837219	16	0.96	0.45	187	131	3.8	92	114	trace	A	A	ND	n	Spg	n	n	n	A	n	ND	DF	4	I	+	-	-
205	837969	11	0.46	0.27	150	70	3.4	289	429	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-

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										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size	Ascites							
206	844910	27	0.63	0.32	192	128	3.3	79	214	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	2	I	-	-
207	845070	27	0.47	0.15	30	16	4.1	74	101	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-
208	844771	25	0.77	0.25	230	79	3.6	87	126	2+	A	A	ND	n	n	n	n	n	P	n	ND	DHF	5	I	-	-
209	844909	28	0.62	0.2	304	203	3.8	108	199	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
210	867868	27	0.4	0.22	318	182	3.4	59	89	trace	A	A	ND	n	n	n	n	n	A	n	ND	DHF	6	I	-	-
211	867852	22	0.78	0.22	80	54	3.2	51	108	2+	A	A	ND	n	n	n	n	n	A	n	ND	DHF	6	I	-	-
212	867844	28	0.79	0.3	33	24	4.3	84	80	A	A	A	ND	n	n	Th	n	n	A	n	ND	DHF	14	I	-	-
213	825910	24	3.25	2.62	122	85	2.8	206	82	trace	A	A	ND	ARDS	n	Th	n	n	P	Tachy	ND	DF	7	I	+	-
214	836232	17	1.36	0.56	24	13	3.7	35	95	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
215	836227	18	0.32	0.12	38	14	3.8	39	118	A	A	A	ND	n	n	Th	n	n	A	n	ND	DF	4	I	-	-
216	836145	17	0.75	0.3	229	138	3.8	65	105	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
217	836131	18	0.72	0.61	470	277	4.1	93	183	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
218	836082	19	0.59	0.23	36	31	4.4	57	83	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	5	I	-	-
219	835908	23	1.09	0.63	623	291	3.4	152	140	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-
220	835882	13	0.44	0.1	137	36	2.3	186	73	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	5	I	-	-
221	835638	14	0.52	0.34	191	81	3.8	106	114	1+	A	A	ND	n	n	n	n	n	A	n	ND	DHF	5	I	-	-
222	835455	14	0.4	0.2	169	62	3.1	43	108	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-
223	835409	22	0.53	0.16	18	13	4.1	86	72	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
224	835248	18	0.94	0.43	237	229	3.7	76	188	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-
225	833199	14	0.39	0.17	22	12	4	66	95	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	9	I	-	-
226	835198	19	1.03	0.35	36	21	4.3	66	94	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
227	835110	15	0.36	0.17	33	22	4	52	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
228	835019	12	0.94	0.4	255	135	3.6	117	105	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
229	834918	21	0.4	0.19	136	105	3.1	35	87	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
230	834738	24	0.68	0.29	21	20	3.9	140	128	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	9	I	-	-
231	834816	22	0.51	0.1	32	21	4.5	49	90	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
232	834880	15	0.4	0.1	42	88	3.1	34	145	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
233	834503	21	0.41	0.2	79	41	3.4	56	111	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-
234	834185	22	0.64	0.15	428	182	3.9	81	105	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
235	834020	26	0.8	0.2	13	17	4.5	58	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
236	833901	23	0.56	0.21	48	30	3.8	71	90	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-
237	823278	22	3.49	3.38	15	91	3.4	140	141	2+	A	A	ND	n	n	n	n	n	P	n	ND	DF	8	I	+	-
238	813548	24	10.73	8.63	1039	492	3.6	84	68	A	A	A	ND	ARDS	n	Th	Hpg	1	P	Tachy	ND	DSS	2	E	+	MODS
239	830946	24	2.01	1.91	1832	817	2.9	82	102	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	10	I	-	-
240	846184	20	0.21	0.1	1369	51	3.5	65	206	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
241	846102	24	0.56	0.17	56	39	4.6	114	218	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-
242	846050	23	1.72	1.37	388	285	3.5	291	247	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
243	845565	31	0.85	0.27	90	92	4.2	47	92	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
244	8455263	21	1.15	0.59	133	147	3.6	118	277	3+	A	A	ND	n	n	n	n	n	P	n	ND	DF	7	I	-	-
245	844790	21	0.67	0.2	112	54	3.8	63	97	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-
246	844432	23	0.51	0.3	357	239	4	182	91	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-

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										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size								Ascites
247	843792	21	0.77	0.3	723	419	3.1	124	174	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
248	843563	22	0.5	0.2	56	39	4.2	67	207	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-
249	843262	21	0.7	0.1	43	35	3.8	65	92	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
250	843121	21	1.36	0.83	519	305	3.3	310	110	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-
251	842711	23	0.74	0.38	180	140	4.1	89	116	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
252	842448	18	0.48	0.21	100	48	3.1	130	83	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	3	I	-	-
253	842266	20	0.42	0.1	92	15	4.2	78	86	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
254	841956	21	1.5	0.35	61	46	3.8	70	300	2+	A	A	ND	n	n	n	n	n	P	n	ND	DF	9	I	-	-
255	841952	17	4.15	3.93	259	100	3.4	345	310	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-
256	841948	18	0.6	0.1	167	55	3.2	112	90	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
257	841938	17	0.44	0.22	50	61	4	95	370	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
258	841922	22	0.44	0.24	130	121	3.7	59	110	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-
259	841152	22	0.58	0.36	93	110	4.2	110	85	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
260	840917	18	0.43	0.18	106	35	4.4	73	104	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	8	I	-	-
261	840697	23	0.75	0.26	174	147	3.6	51	91	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
262	840579	29	1.51	0.57	89	64	4.3	64	88	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-
263	840560	23	0.12	0.74	129	93	3.5	117	136	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-
264	840437	19	0.99	0.59	120	61	3.8	68	98	trace	A	A	ND	n	n	Th	n	n	P	SB	ND	DHF	5	I	-	-
265	840030	22	0.5	0.37	116	43	4.8	55	64	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-
266	840284	21	1.6	0.6	161	98	3.5	148	180	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-
267	839542	24	0.5	0.1	45	57	4	83	106	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
268	839966	25	0.36	0.12	361	160	4.3	90	83	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
269	839999	19	0.9	0.2	58	71	4.2	73	96	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
270	839107	20	0.5	0.2	132	43	2.9	318	136	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
271	839025	21	0.5	0.2	39	23	3.2	53	98	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
272	839014	18	0.6	0.36	170	108	3.8	89	110	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
273	838963	19	2.5	1.81	200	143	3.8	258	123	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
274	838844	17	0.4	0.01	438	249	4.2	58	82	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	3	I	-	-
275	838549	15	1.085	0.51	106	113	3.9	147	185	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-
276	838826	11	0.46	0.27	150	70	3.4	289	429	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-
277	838784	18	0.67	0.32	438	191	2.8	167	88	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	5	I	-	-
278	838605	21	0.26	0.13	127	81	3.8	113	163	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
279	838462	24	0.47	0.29	52	50	2.7	84	160	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-
280	838251	17	0.29	0.12	94	48	3.7	42	194	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
281	837510	18	1.326	0.5	83	61	4.3	76	123	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-
282	837490	10	0.91	0.47	131	67	3.8	71	289	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	-	-
283	836878	17	0.2	0.12	27	21	3.6	60	115	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-
284	836721	15	0.6	0.2	60	40	3.4	50	111	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
285	836680	13	0.84	0.62	150	60	3.2	314	72	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-
286	836545	22	0.66	0.3	47	24	4	69	94	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
287	823897	22	0.6	0.2	100	80	4.2	90	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-

Serial number	In patient number	Demographic data			History														Physical Examination										Systemic examination			Systemic examination																						
		Age (Years)	Sex	Occupation	Present history											Past history			Personal history	Vitals					General condition					Respiratory system	Cardiovascular system	Per abdomen	Central nervous system																					
					Fever	Vomiting	Nausea	Myalgia	Jointpains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Melaena	Hematemesis	SCH		Bleeding gums	Previous hospitalization	DM/Nephropathy	Hypertensive nephropathy	CKD/others	Other infection diseases		NSAIDS usage	PR (b/m)	BP					RR (/m)	Temperature (OF)	Pallor	Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes													
																									Malaria	Enteric fever			Systolic (mm Hg)													Diastolic (mm Hg)												
288	833489	37	f	hw	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	80	80	18	99	A	A	A	A	A	A	n	n	n	n	
289	833296	60	f	hw	4	4	4	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	150	80	20	100	A	A	A	A	A	A	n	n	n	n	
290	832588	36	m	Bs	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	20	99	A	A	A	A	A	A	n	n	n	n	
291	832140	19	m	St	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	80	18	99	A	A	A	A	A	A	n	n	n	n	
292	832073	23	m	St	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	A	A	n	n	n	n	
293	831978	22	m	St	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	20	99	A	A	A	A	A	A	n	n	n	n	
294	831930	29	m	Bs	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	A	A	n	n	n	n
295	831909	27	m	St	3	3	3	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	A	A	n	n	n	n	
296	831482	20	m	St	2	2	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	20	99	A	A	A	A	A	A	n	n	n	n	
297	831298	28	m	St	2	2	2	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	98	A	A	A	A	A	A	n	n	n	n	
298	831267	20	m	St	2	2	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	18	99	A	A	A	A	A	A	n	n	n	n	
299	830764	45	f	hw	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	80	18	99	A	A	A	A	A	A	n	n	n	n		
300	830730	38	m	Bs	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	20	99	A	A	A	A	A	A	n	n	n	n		
301	830671	37	m	Bs	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	120	80	18	100	A	A	A	A	A	A	n	n	n	n		
302	830557	33	m	St	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	110	80	20	98	A	A	A	A	A	A	n	n	n	n		
303	830348	21	m	St	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	110	80	18	98	A	A	A	A	P	P	n	n	n	n		
304	830339	24	m	St	2	2	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	80	20	100	A	A	A	A	A	A	n	n	n	n		
305	829155	22	m	St	2	2	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	120	80	20	98	A	P	A	A	A	A	n	n	n	n		
306	828673	42	m	Bs	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	80	20	100	A	A	A	A	P	P	n	n	n	n		
307	828218	20	m	St	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	120	80	21	100	A	A	A	A	A	A	n	n	n	n		
308	828067	53	m	Bs	6	6	6	6	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	110	80	18	100	A	A	A	A	A	A	n	n	n	n		
309	828057	54	f	hw	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	80	18	99	A	A	A	A	A	A	n	n	n	n		
310	826434	34	f	hw	4	4	4	4	2	2	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	120	80	18	99	A	A	A	A	A	A	n	n	n	n		
311	825604	55	m	fm	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	A	A	n	n	n	n		
312	825137	27	f	St	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	80	18	98	A	A	A	A	A	A	n	n	n	n		
313	825098	22	m	St	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	100	80	18	98	A	A	A	A	A	A	n	n	n	n		
314	824792	25	m	St	8	8	8	8	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	101	A	A	A	A	A	A	n	n	n	n			
315	824605	26	f	St	6	6	6	6	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	19	98	A	A	A	A	A	A	n	n	n	n			
316	824599	32	m	fm	4	4	4	4	-	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	110	80	18	98	A	A	A	A	A	A	n	n	n	n			
317	824138	27	m	St	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	110	80	18	100	A	A	A	A	A	A	n	n	n	n			
318	823799	30	m	St	3	3	3	3	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	21	100	A	A	A	A	A	A	n	n	n	n			
319	823655	32	m	St	2	2	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n			
320	823208	26	m	St	4	4	4	4	-	4	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	20	98	A	A	A	A	A	A	n	n	n	n			
321	822567	45	f	hw	6	6	6	6	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	106	100	80	24	100	P	P	A	A	A	P	n	n	n	n			
322	819513	30	m	fm	2	2	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	100	A	A	A	A	A	A	n	n	n	n			
323	819372	38	f	hw	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	20	100	A	A	A	A	A	A	n	n	n	n			
324	818338	60	f	hw	6	6	6	6	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	120	80	22	100	P	A	A	A	A	A	n	n	n	n			
325	818270	50	m	Bs	6	6	6	6	-	4	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	A	A	n	n	n	n			
326	818208	51	f	hw	4	4	4	4	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	120	80	16	100	A	A	A	A	A	P	n	n	n	n			
327	817490	19	f	Bs	2	2	2	-	-</																																													

Serial number	In patient number	Laboratory investigations																Final diagnosis	Outcome							
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest Xray	USG abdomen					ECG	Kidney biopsy SOS	Duration of hospital stay	Mortality	AKI	Other Complications	
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver		Kidney size							Ascites
288	833489	20	0.49	0.2	239	98	3.6	180	168	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
289	833296	21	0.6	0.2	100	69	3.8	69	85	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
290	832588	19	3.12	2.3	363	237	3.9	299	417	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
291	832140	28	0.58	0.3	184	47	4.4	57	125	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
292	832073	24	1.85	0.99	121	85	3.8	60	115	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
293	831978	19	0.27	0.22	123	52	3.5	120	121	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-
294	831930	22	3.11	2.03	123	94	2.9	128	94	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
295	831909	19	0.45	0.2	892	661	4	43	120	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
296	831482	22	0.34	0.18	58	62	4.4	60	115	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
297	831298	22	1.01	0.7	921	362	3.7	128	162	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
298	831267	19	0.81	0.53	252	118	3.7	89	88	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
299	830764	22	0.39	0.15	172	118	3.6	95	146	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
300	830730	23	0.3	0.12	74	63	4.1	51	79	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
301	830671	22	0.4	0.2	184	196	3.4	58	98	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
302	830557	20	0.337	0.19	51	60	4.2	72	143	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
303	830348	22	0.56	0.2	95	40	3.1	68	107	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
304	830339	22	0.36	0.16	24	26	4.2	54	86	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
305	829155	18	2.19	1.57	88	82	2.9	218	111	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
306	828673	24	1.67	1.11	131	82	3.7	131	94	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
307	828218	22	0.55	0.22	95	60	3.8	57	72	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
308	828067	23	0.81	0.2	204	79	3.7	92	119	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
309	828057	18	0.4	0.2	73	100	3.5	154	109	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
310	826434	23	0.33	0.2	163	76	3.2	71	125	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
311	825604	22	0.55	0.12	72	62	3.9	126	119	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
312	825137	22	0.62	0.32	511	343	2.7	78	99	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
313	825098	28	0.37	0.16	31	10	4.2	36	95	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
314	824792	23	0.91	0.52	267	144	3.1	90	92	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
315	824605	22	0.28	0.11	66	34	4.1	75	143	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
316	824599	23	0.5	0.38	136	63	3.1	140	78	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
317	824138	18	0.42	0.19	83	36	3.9	69	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	11	I	-	-
318	823799	28	0.93	0.59	96	52	3.9	74	127	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
319	823655	16	0.35	0.11	303	186	3.6	74	160	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
320	823208	24	0.39	0.25	33	33	4.1	77	100	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
321	822567	21	2.01	1.53	2941	840	3.5	206	360	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	3	I	-	-
322	819513	25	0.51	0.21	41	50	3.9	74	98	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
323	819372	25	1.58	1.18	448	237	3.5	228	122	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-
324	818338	22	0.3	0.15	18	20	2.2	50	108	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	14	I	-	-
325	818270	26	0.47	0.21	75	43	3.6	145	90	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-
326	818208	23	0.87	0.43	96	55	3.7	146	78	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
327	817490	20	0.36	0.14	203	101	3.6	44	165	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
328	817207	24	0.9	0.39	184	93	3.9	47	86	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-

Serial number	In patient number	Demographic data			History															Physical Examination										Systemic examination			Systemic examination																
		Age (Years)	Sex	Occupation	Present history										Past history					Personal history	Vitals					General condition					Respiratory system	Cardiovascular system	Per abdomen	Central nervous system															
					Fever	Vomiting	Nausea	Myalgia	Joint pains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Melenia	Hematemesis	SCH	Bleeding gums		Previous hospitalization	DM/Nephropathy	Hypertensive nephropathy	CKD/others	Other infection diseases			PR (b/m)	BP						RR (/m)	Temperature (OF)	Pallor	Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes							
																									Malaria	Enteric fever	NSAIDS usage		Systolic (mm Hg)	Diastolic (mm Hg)																			
329	817091	40	m	Bs	4	4	4	4	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	21	98	A	A	A	A	A	A	n	n	n	n
330	816985	25	f	St	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	120	80	18	99	A	A	A	A	A	A	n	n	n	n
331	816770	32	f	hw	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	100	80	19	98	A	A	A	A	A	A	n	n	n	n	
332	816641	24	m	Bs	4	4	4	4	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	100	A	A	A	A	A	A	n	n	n	n	
333	816505	30	m	St	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n	
334	816046	34	f	hw	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	101	A	A	A	A	A	A	n	n	n	n	
335	815745	45	m	fm	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	110	80	19	100	A	A	A	A	A	A	n	n	n	n	
336	815086	22	f	St	3	3	3	3	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
337	815048	37	m	fm	6	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	80	18	101	A	A	A	A	A	P	n	n	n	n		
338	814360	31	m	St	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	100	A	A	A	A	A	A	n	n	n	n		
339	813960	25	m	St	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	18	98	A	A	A	A	A	A	n	n	n	n		
340	813578	30	m	St	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	A	A	n	n	n	n		
341	813413	19	m	St	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
342	812726	24	m	St	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
343	812263	25	m	St	6	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	120	80	20	98	A	A	A	A	A	A	n	n	n	n		
344	811796	26	m	St	3	2	2	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
345	811755	21	f	St	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	100	80	20	98	A	A	A	A	A	A	n	n	n	n		
346	811649	21	m	St	2	2	2	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	20	100	A	A	A	A	A	A	n	n	n	n		
347	811624	27	m	St	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	100	80	20	100	A	A	A	A	A	A	n	n	n	n		
348	810542	21	m	St	2	2	2	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	100	80	20	100	A	A	A	A	A	A	n	n	n	n		
349	809151	22	m	St	6	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	98	A	A	A	A	A	P	n	n	n	n		
350	828222	19	f	St	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	80	20	101	A	A	A	A	A	A	n	n	n	n		
351	807418	21	f	St	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	20	100	A	A	A	A	A	A	n	n	n	n		
352	807181	35	m	fm	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	100	60	20	102	A	A	A	A	A	A	n	n	n	n		
353	806695	58	m	Bs	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	100	80	18	98	A	A	A	A	A	A	n	n	n	n		
354	806171	43	m	fm	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	110	80	18	99	A	A	A	A	A	A	n	n	n	n		
355	804840	38	m	Bs	3	3	3	3	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	100	80	21	100	A	A	A	A	A	A	n	n	n	n		
356	804654	28	m	St	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	19	98	A	A	A	A	A	P	n	n	n	n		
357	803923	52	m	fm	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	120	80	18	100	A	A	A	A	A	A	n	n	n	n		
358	837219	23	m	Bs	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	A	A	n	n	n	n		
359	803074	27	m	St	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
360	802708	43	m	Bs	6	-	-	4	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	100	A	A	A	A	A	A	n	n	n	n		
361	802457	35	m	hw	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	A	A	n	n	n	n		
362	801377	24	f	St	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
363	800227	41	m	fm	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	A	A	n	n	n	n		
364	799575	22	m	St	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
365	799417	32	m	St	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	14	98	A	A	A	A	A	A	n	n	n	n		
366	798788	46	m	fm	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	19	99	A	A	A	A	A	A	n	n	n	n		
367	796927	31	f	St	3	2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	98	A	A	A	A	A	A	n	n	n	n		
368	796566	18	f	St	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	100	A	A	A	A	A	A	n	n	n	n		
369	796336	70	f	hw	4	4	4	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	18	99	A	A	A	A	A	A	n	n	n	n		

Serial number	In patient number	Laboratory investigations													Laboratory investigations																					
		Hb (mg/dL)	PCV (%)	Total count cells/CM	Differential count				Platelet count(x10 ³)								Platelet transfusion	Peripheral smear	PT/INR	APTT	Dengue NS1	Dengue IgM	Blood urea (mg/dL)	Serum creatinine (mg/dL)							Sodium (mmol/L)	Potassium (mmol/L)				
					Neutrophil	Lymphocyte	Monocyte	Eosinophils	ESR (mm/hr)	First	Second	Third	Fourth	Fifth	Sixth	Seventh								Eighth	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6			Day 7			
329	817091	14	39	11900	90	6	4	-	-	38	32	29	48	60	108	-	-	no	Leucocytosis with thrombocytopenia	ND	ND	-	+	23	0.92	0.90	-	-	-	-	-	-	-	-	142	4.01
330	816985	14	42	4000	50	44	5	-	-	95	93	148	158	-	-	-	-	no	Thrombocytopenia	0.99	0.79	+	+	20	0.90	0.86	-	-	-	-	-	-	-	-	143	3.7
331	816770	13	41	10100	40	51	5	-	-	47	46	65	115	-	-	-	-	no	Thrombocytopenia	ND	ND	-	+	16	0.62	0.60	-	-	-	-	-	-	-	-	139	4.7
332	816641	17	46	2500	36	54	5	-	-	67	64	46	62	92	121	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	29	0.87	0.82	-	-	-	-	-	-	-	-	130	5
333	816505	15	44	3900	37	55	7	-	-	215	198	-	-	-	-	-	-	no	leucopenia	ND	ND	-	+	25	1.03	0.90	-	-	-	-	-	-	-	-	141	4.04
334	816046	16	46	4400	60	38	8	-	-	50	16	46	66	126	235	-	-	4rdp	Leucopenia with thrombocytopenia	ND	ND	-	+	20	0.60	0.60	-	-	-	-	-	-	-	-	139	5.6
335	815745	17	47	4000	63	26	10	-	-	41	50	58	105	119	-	-	-	no	Thrombocytopenia	ND	ND	-	+	27	1.28	1.12	-	-	-	-	-	-	-	-	136	4.57
336	815086	12	39	1700	61	26	8	-	-	87	69	57	37	94	128	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	10	0.56	0.48	-	-	-	-	-	-	-	-	132	3.5
337	815048	13	39	9300	62	30	8	-	-	25	36	44	46	102	-	-	-	no	Thrombocytopenia	ND	ND	-	+	58	1.57	1.42	-	-	-	-	-	-	-	-	135	3.9
338	814360	14	41	4500	54	42	2	-	-	63	58	62	64	126	193	-	-	no	Thrombocytopenia	ND	ND	-	+	26	0.92	0.90	-	-	-	-	-	-	-	-	138	4.2
339	813960	12	37	6800	31	60	5	-	-	29	34	45	71	123	-	-	-	no	Lymphocytosis with thrombocytopenia	ND	ND	-	+	20	0.70	0.70	-	-	-	-	-	-	-	-	137	5.29
340	813578	16	48	5700	61	32	7	-	-	131	84	70	84	137	-	-	-	no	Thrombocytopenia	ND	ND	-	+	21	0.93	0.90	-	-	-	-	-	-	-	-	129	4.32
341	813413	15	44	3700	68	27	4	-	-	64	53	24	12	21	71	104	-	1sdp	Leucopenia with thrombocytopenia	ND	ND	+	-	16	0.85	0.82	-	-	-	-	-	-	-	-	139	4.8
342	812726	13	44	3900	38	56	5	-	-	67	76	126	-	-	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	16	0.60	0.62	-	-	-	-	-	-	-	-	138	3.8
343	812263	17	48	2600	39	50	10	-	-	15	20	22	77	132	275	-	-	1sdp	Neutropenia with thrombocytopenia	ND	ND	-	+	27	0.83	0.76	-	-	-	-	-	-	-	-	135	4.39
344	811796	13	38	3200	69	29	10	-	-	121	86	57	121	68	94	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	15	1.19	1.12	-	-	-	-	-	-	-	-	136	3.85
345	811755	11	30	2900	79	15	2	-	-	100	110	121	198	-	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	+	+	17	0.77	0.72	-	-	-	-	-	-	-	-	133	3.5
346	811649	11	30	3300	32	2	4	-	-	45	93	304	-	-	-	-	-	2rdp	Leucopenia with thrombocytopenia	ND	ND	-	+	17	0.65	0.62	-	-	-	-	-	-	-	-	140	4.03
347	811624	13	36	2800	75	20	4	-	-	12	34	60	100	114	-	-	-	1sdp	Leucopenia with thrombocytopenia	ND	ND	-	+	30	0.72	0.68	-	-	-	-	-	-	-	-	134	4.93
348	810542	15	44	1800	54	38	5	-	-	108	79	95	-	-	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	+	+	15	1.14	1.27	-	-	-	-	-	-	-	-	138	4.4
349	809151	15	44	2700	65	26	9	-	-	126	63	43	74	129	167	-	-	no	Leucopenia with thrombocytopenia	ND	ND	+	+	16	0.99	0.90	-	-	-	-	-	-	-	-	141	4.8
350	828222	14	42	5600	46	40	10	-	-	60	68	72	94	-	-	-	-	no	Thrombocytopenia	ND	ND	-	+	16	0.82	0.76	-	-	-	-	-	-	-	-	140	4.5
351	807418	12	38	3800	42	55	3	-	-	42	33	37	31	60	94	110	-	4rdp	Leucopenia with thrombocytopenia	ND	ND	-	+	29	0.78	0.70	-	-	-	-	-	-	-	-	139	4.33
352	807181	14	44	2000	63	33	4	-	-	23	11	6	7	33	80	121	-	4rdp	Leucopenia with thrombocytopenia	ND	ND	-	+	20	1.13	1.12	-	-	-	-	-	-	-	-	132	3.34
353	806695	14	44	2700	32	53	10	-	-	42	58	68	91	-	-	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	21	1.02	0.96	-	-	-	-	-	-	-	-	138	4.1
354	806171	13	42	7100	90	9	0	-	-	34	17	67	75	107	-	-	-	1sdp	Neutrophilia with thrombocytopenia	ND	ND	-	+	29	1.29	0.76	0.85	-	-	-	-	-	-	-	140	3
355	804840	16	46	8000	66	3	10	-	-	26	23	18	56	38	57	104	-	4rdp	Thrombocytopenia	ND	ND	-	+	13	0.36	0.60	-	-	-	-	-	-	-	-	120	4.4
356	804654	16	46	1400	30	52	10	3	-	35	61	129	-	-	-	-	-	no	Lymphocytosis with thrombocytopenia	ND	ND	-	+	22	1.16	1.02	-	-	-	-	-	-	-	-	140	3.9
357	803923	14	40	3700	51	39	10	-	-	133	163	-	-	-	-	-	-	no	leucopenia	ND	ND	-	+	53	1.44	1.38	1.03	-	-	-	-	-	-	-	138	4.3
358	837219	15	44	5800	47	42	10	-	-	47	42	10	-	-	-	-	-	no	Thrombocytopenia	0.97	ND	+	+	20	0.86	0.82	-	-	-	-	-	-	-	-	133	3.93
359	803074	13	39	2200	49	41	10	-	-	108	104	101	105	257	-	-	-	no	Leucopenia with thrombocytopenia	1.02	ND	+	+	12	0.87	0.82	-	-	-	-	-	-	-	-	126	4.92
360	802708	15	44	14000	88	6	6	-	-	198	168	156	-	-	-	-	-	no	Neutrophilic leucocytosis	1.12	1.26	-	+	29	1.87	1.51	1.83	-	-	-	-	-	-	-	148	4
361	802457	12	30	13300	83	11	6	-	-	100	28	27	45	106	-	-	-	1sdp	Thrombocytopenia	1.06	1.1	+	+	41	0.96	0.92	-	-	-	-	-	-	-	-	133	2.5
362	801377	14	41	6700	66	24	10	-	-	32	24	106	114	193	-	-	-	2rdp	Thrombocytopenia	ND	ND	-	+	12	0.49	0.50	-	-	-	-	-	-	-	-	134	4.6
363	800227	15	44	8700	56	34	10	-	-	212	-	-	-	-	-	-	-	no	n	ND	ND	-	+	22	1.05	0.92	-	-	-	-	-	-	-	-	132	3.9
364	799575	9	20	4100	70	28	2	-	-	96	112	108	183	-	-	-	-	no	Anemia with thrombocytopenia	ND	ND	-	+	23	0.88	0.80	-	-	-	-	-	-	-	-	129	3.45
365	799417	14	42	3900	62	24	6	-	-	75	61	53	62	91	163	-	-	no	Leucopenia with thrombocytopenia	ND	ND	-	+	14	0.82	0.80	-	-	-	-	-	-	-	-	140	4.5
366	798788	14	42	6600	44	44	10	-	-	49	103	128	239	-	-	-	-	no	Thrombocytopenia	ND	ND	-	+	15	1.26	1.02	-	-	-	-	-	-	-	-	133	4.86
367	796927	11	32	10500	74	17	9	-	-	53	291	419	-	-	-	-	-	no	Neutrophilia	ND	ND	-	+	27	0.83	0.80	-	-	-	-	-	-	-	-	138	4.5
368	796566	10	28	7700	64	28	8	-	-	85	72	76	92	139	-	-	-	no	Thrombocytopenia	0.97	ND	-	+	10	0.48	0.46	-	-	-	-	-	-	-	-	136	3.22
369	796336	15	44	7700	85	9	6	-	-	77	86	115	86	66	69	71	-	no	Erythrocytosis with thrombocytopenia	1.24	1.52	-	+	13	0.36	0.45	0.38	0.37	0.65	-	-	-	-	-	132	2.6

Serial number	In patient number	Laboratory investigations																Final diagnosis	Outcome							
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest X-ray	USG abdomen					ECG	Kidney biopsy SOS	Duration of hospital stay	Mortality	AKI	Other Complications	
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver		Kidney size							Ascites
329	817091	19	0.82	0.5	36	58	3.6	112	125	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
330	816985	21	0.53	0.13	58	34	3.4	57	260	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-
331	816770	20	0.4	0.2	78	39	3.4	47	84	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
332	816641	23	0.53	0.1	62	35	3.9	60	79	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
333	816505	21	0.29	0.16	57	42	4.2	127	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
334	816046	18	0.75	0.2	145	144	3.8	71	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
335	815745	23	0.92	0.71	340	305	4.8	151	144	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
336	815086	22	0.4	0.17	65	40	3.8	38	129	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
337	815048	18	5.67	5	66	61	3.3	82	89	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
338	814360	23	1.9	1.6	344	297	3.2	249	104	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
339	813960	23	1.03	0.05	145	97	3.3	77	115	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
340	813578	25	0.6	0.2	88	59	4.1	92	95	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
341	813413	22	0.4	0.19	112	83	3.85	115	119	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
342	812726	24	0.47	0.22	192	123	4.1	98	104	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
343	812263	28	0.71	0.41	250	130	3.6	62	109	3+	A	A	ND	n	n	n	n	n	P	n	ND	DF	9	I	-	-
344	811796	21	0.27	0.1	42	27	3.6	55	86	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
345	811755	18	0.42	0.2	28	19	4.2	73	144	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
346	811649	23	0.61	0.22	153	115	3.8	42	115	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
347	811624	23	1.32	0.81	37	36	3.3	126	359	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	5	I	-	-
348	810542	26	0.56	0.18	71	30	4.1	64	87	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-
349	809151	24	0.65	0.27	107	54	3.7	56	159	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
350	828222	20	0.6	0.2	86	40	3.4	70	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
351	807418	19	0.72	0.48	245	108	3.2	276	85	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
352	807181	22	0.41	0.15	135	68	3.6	88	136	trace	A	A	ND	Pleural effusion	n	Th	n	n	P	n	ND	DHF	7	I	-	-
353	806695	23	0.73	0.37	81	71	3.7	101	113	trace	A	A	ND	n	n	n	n	n	A	SB	ND	DF	4	I	-	-
354	806171	26	0.59	0.26	84	69	3.6	69	159	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-
355	804840	19	0.96	0.33	202	128	3.7	62	114	trace	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-
356	804654	21	0.44	0.15	56	28	3.8	92	86	1+	A	A	ND	Pleural effusion	n	n	n	n	P	n	ND	DF	4	I	-	-
357	803923	19	1.57	1.01	183	84	3.2	109	153	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
358	837219	16	0.96	0.45	187	131	3.8	92	114	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
359	803074	20	0.36	0.1	85	24	3.7	32	114	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-
360	802708	22	0.7	0.3	59	46	4.2	70	79	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	+	-
361	802457	15	7.64	6.48	88	71	2.1	317	201	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	Hepatitis
362	801377	23	0.36	0.14	38	38	4.1	49	150	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
363	800227	22	0.52	0.19	113	92	4	112	93	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-
364	799575	21	0.7	0.31	355	160	3.8	54	96	3+	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-
365	799417	20	0.6	0.2	54	36	4	70	102	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
366	798788	27	0.86	0.23	101	48	3.2	164	93	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-
367	796927	26	0.52	0.23	94	56	3.5	142	102	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
368	796566	19	0.3	0.1	22	15	3.7	97	82	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-
369	796336	28	1.27	0.49	34	26	3.6	96	146	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	12	I	+	-

Serial number	In patient number	Laboratory investigations																	Outcome									
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest X-ray	USG abdomen					ECG	Kidney biopsy SOS	Final diagnosis	Duration of hospital stay	Mortality	AKI	Other Complications		
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size	Ascites									
370	796269	10	1.89	1.03	2624	1058	3	123	114	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	22	I	-	-	-	
371	795783	26	0.6	0.28	64	47	4.1	71	122	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	9	I	-	-	-	
372	794148	20	0.6	0.2	155	81	4	76	96	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
373	793760	25	0.63	0.19	41	35	4	48	163	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-	-	
374	792008	28	1.16	0.39	39	35	4.1	70	94	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
375	791238	22	0.91	0.43	53	56	3.2	129	147	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	+	-	-	
376	790780	20	0.84	0.39	283	253	2	53	111	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
377	790602	20	0.6	0.3	160	41	2.5	54	139	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	-	
378	788953	27	1.09	0.36	92	56	3.7	59	108	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	
379	786011	22	0.55	0.19	52	33	4.2	76	97	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	
380	784394	24	0.51	0.27	37	32	4	69	92	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
381	782091	20	1.28	0.82	408	128	3.4	189	190	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	9	I	-	-	-	
382	781012	25	0.4	0.1	38	28	4.2	70	122	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
383	880827	26	1.35	0.72	91	55	4.2	43	105	A	A	A	ND	n	n	Spg	Th	n	P	n	ND	DF	4	I	-	-	-	
384	880886	23	0.73	0.36	82	39	3.4	127	90	1+	A	A	ND	n	n	n	n	n	P	n	ND	DF	4	I	-	-	-	
385	884237	21	1.49	1.18	472	226	2.9	523	214	trace	A	A	ND	n	n	Th	n	n	P	SB	ND	DF	6	I	-	-	-	
386	884373	20	0.66	0.33	193	151	4	83	193	2+	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	
387	884343	22	1.09	0.67	111	49	3.8	100	88	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
388	883643	27	0.7	0.29	116	60	3.7	60	152	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
389	883486	16	0.85	0.37	214	160	3.8	102	113	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	3	I	-	-	-	
390	873796	26	2.75	2.03	227	105	3.8	305	144	2+	A	A	ND	n	n	n	n	n	P	n	ND	DHF	5	I	-	-	Hepatitis	
391	875225	23	0.45	0.19	199	165	4.2	83	94	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	7	I	-	-	-	
392	876156	20	3.12	2.83	807	410	3.1	100	191	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	Hepatitis	
393	876476	21	0.65	0.38	127	112	3.2	548	263	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	-	
394	877605	19	0.56	0.33	154	91	3.2	53	119	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	9	I	-	-	-	
395	880827	26	1.35	0.72	91	55	4.2	43	105	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
396	880579	21	5.18	3.86	96	1271	2.6	456	77	A	A	A	ND	n	n	Spg	Th	Hpg	n	P	n	ND	DHF	5	I	-	-	Hepatitis
397	893445	19	0.65	0.16	124	78	4.1	88	100	4+	A	A	ND	n	n	n	n	n	A	n	ND	DF	8	I	-	-	-	
398	893443	25	0.56	0.24	55	48	4.5	80	97	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
399	892699	19	0.84	0.24	429	149	4	116	93	2+	A	A	ND	n	n	Th	Hpg	l	P	n	ND	DF	5	I	-	-	-	
400	892693	25	0.88	0.33	323	252	3.9	76	125	A	A	A	ND	n	n	n	n	n	P	n	ND	DF	6	I	-	-	-	
401	892462	29	1.29	0.74	179	106	3.6	77	95	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	4	I	-	-	-	
402	891914	20	1	0.3	54	37	3.6	74	99	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
403	891429	29	0.73	0.34	123	65	3.8	84	123	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	-	
404	891377	17	0.25	0.12	93	40	3.8	83	125	1+	A	A	ND	n	n	Spg	Th	n	P	n	ND	DF	7	I	-	-	-	
405	890619	22	0.74	0.17	150	51	4.4	54	136	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	9	I	-	-	-	
406	895229	20	1.54	0.9	326	231	3.1	121	112	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
407	895344	21	0.62	0.23	54	38	3.7	52	118	A	A	A	ND	n	n	Spg	Th	n	l	P	n	ND	DF	6	I	-	-	-
408	895228	16	1.77	0.67	3657	1645	3.4	111	127	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	+	-	-	
409	894122	19	3.56	3.05	80	138	2.7	754	174	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
410	894362	22	0.47	0.19	62	45	4	82	93	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	

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		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest Xray	USG abdomen					ECG	Kidney biopsy SOS	Final diagnosis	Duration of hospital stay	Mortality	AKI	Other Complications		
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver	Kidney size	Ascites									
411	884343	22	1.09	0.67	111	49	3.8	100	89	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	-	-	-	
412	884237	21	1.49	1.18	472	226	2.9	523	214	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
413	883643	27	0.7	0.29	116	60	3.7	60	152	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-	
414	876487	20	0.76	0.3	475	225	3.4	142	117	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
415	869201	26	0.5	0.1	36	91	4	173	172	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
416	867844	28	0.8	0.3	33	24	4.3	84	80	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
417	881301	23	0.42	0.21	126	65	3.3	142	152	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
418	855028	22	0.46	0.31	207	154	3.5	93	150	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
419	825829	20	0.51	0.3	541	257	3.3	119	269	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	8	I	-	-	-	
420	825490	25	0.64	0.27	86	64	3.6	151	104	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
421	852367	22	0.36	0.17	86	46	2.9	75	108	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
422	850299	20	0.52	0.2	61	41	2.6	97	99	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-	
423	893451	17	3.7	2.42	2875	2433	3.8	134	91	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	Hepatitis	
424	852661	19	3.47	0.84	28	40	3.9	62	89	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	Hepatitis	
425	895397	11	3.25	1.96	9065	2839	3	205	188	2+	A	A	ND	Pleural effusion	Spg	Th	n	l	P	n	ND	DHF	9	I	+	-	-	
426	882308	24	0.4	0.19	201	94	3.3	97	104	1+	A	A	ND	n	n	Th	n	n	P	SB	ND	DHF	8	I	-	-	-	
427	882170	24	0.47	0.24	522	344	4.3	77	155	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	-	
428	881932	28	0.52	0.33	352	81	3	101	122	A	A	A	ND	n	n	Th	n	l	P	n	ND	DF	3	I	-	-	-	
429	881301	23	0.42	0.21	126	65	3.3	142	152	4+	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
430	880579	21	5.18	3.86	96	1271	2.6	456	77	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-	
431	867385	21	0.6	0.22	327	135	2.6	95	83	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
432	852330	17	0.52	0.1	777	322	3.6	141	96	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
433	866257	22	1.16	0.72	111	64	3.1	84	227	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
434	881396	24	0.48	0.23	111	114	3.8	79	104	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
435	881932	28	0.52	0.33	352	81	3	101	122	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	-	
436	882170	24	0.47	0.24	532	344	4.3	77	155	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
437	882308	24	0.46	0.19	204	91	3.3	97	104	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
438	867852	22	0.78	0.22	80	54	3.2	51	108	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
439	869024	25	0.6	0.1	66	75	4.1	99	144	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
440	869358	19	0.35	0.12	592	217	3.7	66	147	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
441	872966	19	0.4	0.1	174	62	2.8	239	114	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
442	867868	27	0.4	0.22	318	182	3.4	59	89	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
443	873394	20	0.56	0.32	99	68	3.4	95	100	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-	
444	891429	29	0.73	0.34	123	65	3.8	123	84	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	-	
445	891914	20	1	0.3	54	37	3.6	74	99	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
446	892462	29	1.29	0.74	179	100	3.6	77	95	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
447	879164	21	1.35	0.58	182	99	3.6	102	203	3+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
448	879607	27	0.69	0.38	93	63	3.8	155	127	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
449	880106	17	1.24	0.64	3477	1229	3.2	93	121	3+	A	A	ND	n	n	Spg	Th	Hpg	n	P	n	ND	DHF	5	I	-	-	-
450	880644	27	0.31	0.15	82	33	4.1	62	94	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
451	880641	26	1.35	0.72	91	55	4.2	43	105	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	

Serial number	In patient number	Demographic data			History														Personal history	Physical Examination										Systemic examination			Systemic examination																		
		Age (Years)	Sex	Occupation	Present history							Past history								Vitals				General condition						Respiratory system	Cardiovascular system	Per abdomen		Central nervous system																	
					Fever	Vomiting	Nausea	Myalgia	Jointpains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Matena	Hematemesis	SCH		Bleeding gums	Previous hospitalization	DM/Nephropathy	Hypertensive nephropathy	CKD/others	Malaria	Other infection diseases	NSAIDS usage	PR (b/m)	BP						RR (/m)	Temperature (OF)	Pallor	Icterus	Lymphadenopathy	SCH	Pethechial hemorrhage	Rashes									
452	882845	21	m	St	4	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	120	80	19	99	A	A	A	A	P	P	n	n	n	n
453	851368	35	f	hw	2	2	2	2	-	-	-	2	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	130	80	18	99	A	P	A	A	P	P	n	n	n	n	
454	893443	39	m	Bs	3	3	3	3	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	100	80	20	100	A	A	A	A	P	P	n	n	n	n		
455	893445	35	m	Bs	8	2	2	8	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	120	80	20	98	A	A	A	A	P	P	n	n	n	n		
456	885676	30	f	St	3	3	3	3	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n		
457	886385	34	m	Bs	6	2	2	2	-	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n		
458	886169	35	m	Unsk	4	2	2	2	2	2	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	98	A	A	A	A	P	P	n	n	n	n			
459	885951	22	m	St	4	2	2	2	-	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	110	80	18	99	A	A	A	A	P	P	n	n	n	n			
460	886779	36	m	Bs	4	2	2	2	2	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	70	19	99	A	A	A	A	P	P	n	n	n	n			
461	887039	59	m	Bs	4	4	4	4	-	4	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	P	P	n	n	n	n			
462	887111	22	m	St	4	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	19	98	A	A	A	A	P	P	n	n	n	n			
463	888388	20	m	St	4	2	2	2	2	-	2	-	-	n	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	96	120	80	19	100	A	A	A	A	P	P	n	n	n	n			
464	889743	20	m	St	4	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	96	120	80	18	99	A	A	A	A	P	P	n	n	n	n			
465	889886	18	m	St	4	2	2	2	2	2	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	130	80	20	98	A	A	A	A	P	P	n	n	n	n				
466	891239	60	m	Retired	2	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n			
467	891377	18	m	St	4	2	2	2	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	70	130	80	18	98	A	A	A	A	P	P	n	n	n	n			
468	819798	28	f	hw	2	2	2	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	120	80	18	99	P	P	A	A	P	P	n	n	n	n				
469	826665	23	m	St	4	-	-	-	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
470	880213	22	m	St	6	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
471	882995	45	m	Bs	4	2	2	2	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
472	888318	21	m	St	4	2	2	2	2	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
473	890753	50	f	hw	4	-	-	2	2	2	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
474	891209	37	f	hw	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
475	890619	24	m	St	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
476	893115	18	m	St	4	4	4	4	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	70	18	99	A	A	A	A	P	P	n	n	n	n				
477	893821	39	m	Bs	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	110	80	18	99	A	P	A	A	P	P	n	n	n	n				
478	896006	18	m	St	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	120	80	18	99	A	A	A	A	P	P	n	n	n	n				
479	893876	19	m	St	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
480	890634	18	f	St	4	4	4	4	4	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
481	889047	36	m	Bs	6	-	-	2	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
482	885139	25	f	St	4	2	2	2	2	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	100	90	18	99	A	A	A	A	P	P	n	n	n	n				
483	885683	29	m	St	4	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	P	A	A	A	P	P	n	n	n	n				
484	884661	18	m	St	4	2	2	2	2	-	2	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
485	884006	53	f	hw	4	4	4	4	-	2	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	110	70	18	99	A	A	A	A	P	P	n	n	n	n				
486	881638	23	m	St	6	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	120	80	18	99	A	A	A	A	P	P	n	n	n	n				
487	881612	26	m	St	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	120	80	18	99	A	P	A	A	P	P	n	n	n	n				
488	880827	28	m	St	4	4	4	4	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	100	70	18	100	A	A	A	A	P	P	n	n	n	n				
489	880886	29	f	St	4	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	60	120	80	18	99	A	A	A	A	P	P	n	n	n	n				
490	880236	24	m	St	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	90	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
491	876487	18	m	St	4	2	2	2	2	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	110	80	18	99	A	A	A	A	P	P	n	n	n	n				
492	879952	35	m	Bs	2	2	2	2	-	-	-	-	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	120	80	18	99	A	A	A	A	P	P	n	n	n	n				

Serial number	In patient number	Laboratory investigations																Final diagnosis	Outcome								
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest X-ray	USG abdomen					ECG	Kidney biopsy SOS	Duration of hospital stay	Mortality	AKI	Other Complications		
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver		Kidney size							Ascites	
452	882845	33	0.67	0.43	494	193	3.8	180	87	2+	A	A	ND	n	n	Th	Hpg	n	P	n	ND	DF	4	I	-	-	
453	851368	20	1.91	1.09	235	106	2.8	320	118	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	
454	893443	25	0.56	0.24	55	48	4.5	80	97	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	
455	893445	19	0.65	0.16	124	78	4.1	88	100	4+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	8	I	-	-	
456	885676	22	0.38	0.3	126	141	3.7	65	136	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	
457	886385	20	0.5	0.29	700	392	3.6	144	114	2+	A	A	ND	n	n	SpG	Th	n	n	P	n	ND	DF	4	I	-	-
458	886169	19	1.33	0.86	282	92	3.6	88	156	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	
459	885951	26	0.44	0.12	90	63	3.2	83	99	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
460	886779	16	0.88	0.22	89	65	4.8	46	108	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	9	I	-	-	
461	887039	19	0.55	0.29	208	258	4	75	262	4+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	
462	887111	24	1.2	0.33	14	11	3.4	59	89	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	
463	888388	24	0.76	0.37	206	190	3.8	63	176	3+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	6	I	-	-	
464	889743	21	1.93	0.65	29	20	3.3	73	98	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	
465	889886	22	0.22	0.16	123	75	4.4	170	114	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	
466	891239	23	0.34	0.14	11	45	2.1	41	111	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
467	891377	17	0.25	0.12	90	43	3.8	83	125	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	7	I	-	-	
468	819798	20	9.64	9.26	674	535	4.2	112	120	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	2	I	-	-	
469	826665	22	0.7	0.2	90	60	3.2	60	102	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
470	880213	26	0.2	0.13	57	115	3.5	76	145	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	2	I	-	-	
471	882995	25	0.93	0.66	205	136	3.6	408	95	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	
472	888318	23	0.44	0.2	97	72	4.2	62	88	3+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
473	890753	20	0.33	0.15	78	58	3.1	104	93	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	
474	891209	16	2.46	1.69	2051	735	3.5	104	93	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	
475	890619	22	0.74	0.17	150	51	4.4	54	136	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	
476	893115	18	0.29	0.14	98	75	4.2	66	242	1+	A	A	ND	n	n	n	n	n	A	n	ND	DF	4	I	-	-	
477	893821	21	1.16	0.41	92	162	4.2	236	118	3+	A	A	ND	n	n	SpG	n	n	n	A	n	ND	DF	4	I	-	-
478	896006	24	0.52	0.2	51	28	3.6	237	107	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	3	I	-	-	
479	893876	20	0.71	0.13	52	29	4	78	92	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
480	890634	19	0.77	0.3	536	249	2.9	108	89	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	
481	889047	33	0.99	0.47	672	251	4.2	101	126	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	
482	885139	16	0.53	0.31	97	36	3	220	118	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	
483	885683	23	0.8	0.3	85	50	3.6	74	177	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	
484	884661	24	0.58	0.29	51	19	3.4	68	93	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	
485	884006	23	0.3	0.1	31	23	3.7	99	137	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
486	881638	29	0.35	0.19	84	38	3.9	68	127	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	
487	881612	22	4.95	3.69	23	21	3.2	96	117	trace	A	A	ND	n	n	SpG	Th	n	n	P	n	ND	DF	5	I	-	-
488	880827	26	1.35	0.72	91	55	4.2	43	105	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
489	880886	23	0.73	0.36	82	59	3.4	127	90	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	4	I	-	-	
490	880236	24	1	0.8	82	67	3.9	65	100	1+	A	A	ND	n	n	SpG	Th	n	n	P	n	ND	DHF	4	I	-	-
491	876487	20	0.76	0.3	475	225	3.4	142	117	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	
492	879952	27	1.5	0.73	158	151	3.6	97	89	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	

Serial number	In patient number	Laboratory investigations																Final diagnosis	Outcome									
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest X-ray	USG abdomen					ECG	Kidney biopsy SOS	Duration of hospital stay	Mortality	AKI	Other Complications			
										Protein	Hematuria	Casts	Urine myoglobin		Spleen	GB wall thickness	Liver		Kidney size							Ascites		
493	874491	22	0.27	0.13	97	46	3.6	117	133	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
494	873348	26	0.57	0.29	66	39	3.7	70	84	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
495	871702	22	0.43	0.15	122	129	4.2	59	124	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	-	
496	870082	22	1.09	0.65	273	193	3.2	184	99	A	A	A	ND	n	n	Spg	Th	n	n	P	n	ND	DHF	6	I	-	-	-
497	869024	25	0.6	0.1	66	75	4.1	99	144	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
498	893188	19	0.44	0.27	524	456	3.8	77	98	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
499	891740	21	0.38	0.14	34	30	4.2	75	95	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
500	890139	22	0.5	0.25	117	89	4.8	78	121	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
501	888548	25	0.49	0.2	79	47	4.2	79	126	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
502	886437	24	0.53	0.21	18	15	4.1	73	141	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	9	I	-	-	-	
503	892699	19.6	0.84	0.24	429	149	4	116	93	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
504	892693	25	0.88	0.33	323	252	3.9	76	125	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	6	I	-	-	-	
505	888186	22	0.6	0.2	120	80	4.2	80	96	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	-	
506	886963	24	1.56	0.7	259	109	3.5	81	90	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-	
507	886810	21	0.44	0.2	70	34	4.2	77	97	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
508	867868	27	0.4	0.22	318	182	3.4	59	89	trace	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
509	819073	22	3.65	2.91	101	61	3.2	120	298	1+	A	A	ND	n	n	Spg	Th	Hpg	n	P	n	ND	DHF	5	I	+	-	-
510	799894	25	1.67	0.89	22	15	3.2	83	136	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	3	I	-	-	-	
511	838784	20	0.67	0.52	438	191	2.8	167	88	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
512	843563	22	0.5	0.2	56	39	4.2	67	209	1+	A	A	ND	n	n	n	n	n	A	SB	ND	DHF	5	I	-	-	-	
513	830939	17	0.55	0.09	49	38	3.9	82	100	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	-	
514	836878	17	0.2	0.12	27	21	3.6	60	115	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	7	I	-	-	-	
515	837971	19	0.2	0.1	62	19	4.3	67	110	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
516	834503	21	0.41	0.2	79	41	3.4	56	111	A	A	A	ND	n	n	Spg	n	n	n	P	n	ND	DF	8	I	-	-	-
517	835625	19	0.77	0.52	577	297	3.3	63	100	A	A	A	ND	n	n	n	n	n	A	n	ND	DF	5	I	-	-	-	
518	833456	24	0.3	0.11	22	25	4.1	83	90	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
519	888388	24	0.76	0.37	190	206	3.58	63	176	3+	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	5	I	-	-	-	
520	887305	20	0.41	0.12	47	17	4.2	62	95	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
521	883643	27	0.7	0.29	116	60	3.7	60	152	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	-	-	-	
522	875225	23	0.45	0.19	199	165	4.2	83	94	trace	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	-	-	-	
523	815745	23	1.57	0.71	305	340	4.8	151	151	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
524	816046	22	0.75	0.21	144	146	3.8	71	102	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	5	I	-	-	-	
525	882995	25	0.93	0.66	205	136	3.8	408	95	1+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	8	I	-	-	-	
526	894691	21	2.46	0.67	40	18	3	82	83	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	7	I	+	-	-	
527	840019	22	2.2	1.8	57	29	3.5	65	104	2+	A	A	ND	n	n	Th	n	n	P	n	ND	DF	6	I	+	-	-	
528	837951	15	3.7	3.4	6099	2533	2.8	316	182	2+	A	A	ND	n	n	n	n	n	A	n	ND	DSS	1	E	+	-	MODS	
529	813548	14	10	8	1039	492	2.2	512	68	1+	A	A	ND	n	n	Spg	Th	Hpg	n	P	Tachy	ND	DSS	2	E	+	-	MODS
530	822121	18	0.3	0.23	91	39	2.8	76	96	3+	A	A	ND	n	n	Spg	n	n	n	P	n	ND	DF	5	I	+	-	-
531	804499	18	1	0.4	174	83	3.2	96	100	trace	A	A	ND	n	n	Spg	n	n	n	P	n	ND	DF	10	I	+	-	-
532	814803	20	3.8	3.7	47	46	3	154	119	1+	A	A	ND	n	n	Th	n	n	P	SB	ND	DF	7	I	+	-	-	
533	884373	20	0.66	0.33	193	151	4	83	193	2+	A	A	ND	n	n	Spg	Th	n	n	P	SB	ND	DHF	6	I	-	-	-

Serial number	In patient number	Demographic data			History															Physical Examination								Systemic examination			Systemic examination											
		Age (Years)	Sex	Occupation	Present history										Past history					Vitals				General condition				Respiratory system	Cardiovascular system	Per abdomen	Central nervous system											
					Fever	Vomiting	Nausea	Myalgia	Jointpains	Retro orbital pain	Abdominal pain	Oliguria	Urine output	Haemoptysis	Epistaxis	Melena	Hematemesis	SCH	Bleeding gums	Previous hospitalization	DM/Nephropathy	Hypertensive nephropathy	CKD/others	Other infection diseases		PR (b/min)	BP					RR (/m)	Temperature (OF)	Pallor	Icterus	Lymphadenopathy	SCH	Petechial hemorrhage	Rashes			
																								Malaria	Enteric fever		NSAIDS usage													Systolic (mm Hg)	Diastolic (mm Hg)	
534	885803	29	f	hw	2	1	1	2	2	-	2	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n	n	n	n
535	835252	26	m	St	6	6	6	6	-	-	6	-	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n	n	n	n

Serial number	In patient number	Laboratory investigations														Laboratory investigations																		
		Hb (mg/dL)	PCV (%)	Total count cells/CM	Differential count				Platelet count(x10 ³)								Platelet transfusion	Peripheral smear	PT/INR	APTT	Dengue NS1	Dengue IgM	Blood urea (mg/dL)	Serum creatinine (mg/dL)							Sodium (mmol/L)	Potassium (mmol/L)		
					Neutrophil	Lymphocyte	Monocyte	Eosinophils	ESR (mm/hr)	First	Second	Third	Fourth	Fifth	Sixth	Seventh								Eighth	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6			Day 7	
534	885803	13	38	8500	26	70	4	-	-	33	98	103	124	-	-	-	-	1sdp	Lymphocytosis with thrombocytopenia	1.38	1.72	+	+	14	0.57	0.60	-	-	-	-	-	-	144	5.3
535	835252	17	46	9700	53	42	5	-	-	14	26	98	150	-	-	-	-	no	Thrombocytopenia	ND	ND	-	+	21	0.81	0.80	-	-	-	-	-	-	136	3.74

Serial number	In patient number	Laboratory investigations																	Outcome								
		Bicarbonate (mmol/L)	Total bilirubin (mg/dL)	Direct bilirubin (mg/dL)	SGOT (IU/L)	SGPT (IU/L)	Serum albumin (mg/dL)	Alkaline phosphatase (mg/dL)	RBS (mg/dL)	Urine routine and microscopy				Chest Xray	USG abdomen					ECG	Kidney biopsy SOS	Final diagnosis	Duration of hospital stay		Mortality	AKI	Other Complications
Protein	Hematuria	Casts	Urine myoglobin	Spleen	GB wall thickness	Liver	Kidney size	Ascites	Duration of hospital stay	Mortality																	
534	885803	24	0.33	0.19	103	61	3.3	77	107	A	A	A	ND	n	n	Th	n	n	P	n	ND	DHF	3	I	-	-	-
535	835252	18	0.94	0.43	237	229	3.7	76	188	A	A	A	ND	n	n	Th	n	n	P	n	ND	DF	4	I	-	-	-