“CLINICO-MICROBIAL ASSESSMENT OF URINARY TRACT INFECTIONS IN A TERTIARY CARE HOSPITAL”

By

REG NO. BG0115014

Dissertation

Submitted to the
KLE University, Belagavi, Karnataka

In Partial Fulfillment
of the requirements for the degree of

M. D.
in
GENERAL MEDICINE

DEPARTMENT OF MEDICINE,
JAWAHARLAL NEHRU MEDICAL COLLEGE,
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ENDORSEMENT

This is to certify that the dissertation entitled **"CLINICO-MICROBIAL ASSESSMENT OF URINARY TRACT INFECTIONS IN A TERTIARY CARE HOSPITAL"** is a bonafide research work done by **CANDIDATE REG NO. BG0115014.**

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LIST OF ABBREVIATIONS USED

ARESC	-	Antimicrobial Resistance Epidemiological Survey on Cystitis
BC	-	Before Christ
BPH	-	Benign prostatic hyperplasia
CA-UTI	-	Community-acquired urinary tract infection
CAUTI	-	Catheter-associated urinary tract infection
CFU	-	Colony forming units
CKD	-	Chronic kidney disease
CLD	-	Chronic liver disease
CT	-	Computed tomography
CUP	-	Chaperone–usher pathway
CVA	-	Cerebrovascular accident
DM	-	Diabetes mellitus
DMSA	-	Di-mercapto-succinic acid
E. coli	-	Escherichia coli
Ebp	-	Endocarditis- and biofilm-associated pili
Enterococcus sps	-	Enterococcus species
Epa	-	Enterococcal polysaccharide antigen
Esp	-	Enterococcal surface protein
GBS	-	Group B Streptococcus
GE	-	Gastroenteritis
HUN	-	Hydroureteronephrosis
IDSA	-	Infectious Disease Society of America
IPD	-	Inpatient department
IVU	-	Intravenous urography

K. pneumoniae	-	Klebsiella pneumoniae
K.Oxytoca	-	Klebsiella oxytoca
LasB	-	Elastase expression
LasR	-	Transcriptional regulators
LRTI	-	Lower respiratory tract infection
LSCS	-	Lower segment caesarean section
mL	-	Millilitre
MODS	-	Multiple organ dysfunction syndrome
MR/P	-	Mannose-resistant Proteus-like
n	-	Total number
OPD	-	Outpatient department
P. aureginosa	-	Pseudomonas aeruginosa
P. mirabilis	-	Proteus mirabilis
PCKD	-	Polycystic kidney disease
Protease spp	-	Protease species
Proteus spp	-	Proteus species
Pseudomonas sps	-	*Pseudomonas* species
RC	-	Renal calculi
RhlR	-	Synthesis of rhamnolipids
RVD	-	Retroviral disease
S. saprophyticus	-	Staphylococcus saprophyticus
SD	-	Standard deviation
T2DM	-	Type 2 diabetes mellitus
UPEC	-	Uropathogenic Escherichia coli
UTI	-	Urinary tract infection
wbc/mm^3	-	White blood cell per cubic millimeter
yrs	-	Years

ABSTRACT

Background and objectives

Urinary tract infections encompasses a wide array of infections, accounting for a vast number of community as well as hospital acquired infections. This study was undertaken to evaluate the changing clinical presentations and risk factors of urinary tract infections and the etiological agents in complicated and uncomplicated urinary tract infections.

Methodology

This one year cross sectional study was comprised of 500 patients with signs and symptoms of urinary tract infection and/or with urinary tract infection confirmed by urine culture in the admitted in the Department of Medicine and Nephrology, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi.

Results

Most of the patients (59.00%) of the patients were males and the male female ratio was 1.43:1. The most common age group was 51 to 60 years comprised of 25.40% of the patients and the mean age was 53.60 ±17.55 years. Majority of the patients (76.80%) had complicated type of UTI. Most of the patients had fever with chills (65.60%), followed by pain abdomen (47.00%), Majority of the patients (88.20%) had community acquired infection while 8.40% and 3.40% of the patients had catheter related nosocomial infection and non catheter nosocomial infection respectively. Overall, Escherichia coli was the most common organism (56.40%), isolated and it was the most common organism

isolated in patients with nosocomial catheter related infections as well as non catheter related nosocomial infections. Also escherachia coli was the most common organism isolated in patients with complicated (57.03%) and uncomplicated UTI (55.17%). The most common risk factor was type 2 diabetes mellitus (40%) followed by CKD (19.2%).

Conclusion and interpretation

The most common clinical presentations of UTI are fever with chills. Type 2 diabetes mellitus, is the important risk factors of UTI. E. coli is the predominant causative agent in all the UTIs.

Keywords

Complicated urinary tract infection; Uncomplicated urinary tract infection; Urinary tract infection;

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INTRODUCTION

Urinary tract infection is one of the most common bacterial infections among men and women, affecting 150 million people each year world wide.[1,2] In 2007 it was estimated 10.5 million with UTI symptoms and 2 to 3 million emergency department visits.[2-4] Prevalence of UTI varies from 21.8 to 31.3 in various parts of India.[2]

Clinically, UTI is divided in to uncomplicated and complicated. When the infection occurs in otherwise healthy and have no structural or neurological urinary tract abnormalities it is an uncomplicated UTI.[2,5]

Complicated UTIs are defined as UTIs associated with factors that compromise the urinary tract or host defence, including urinary obstruction, urinary retention caused by neurological disease, immunosuppression, renal failure, renal transplantation, pregnancy and the presence of foreign bodies such as calculi, indwelling catheters or other drainage devices.[2,6,7]

It is reported that, 70–80% of complicated UTIs are attributable to indwelling catheters,[8] accounting for 1 million cases per year in the United States[4]. Risk factors for developing a CAUTI include prolonged catheterization, female gender, older age and diabetes.[2,9]

The symptoms associated with the bladder and kidney infections are contrasting which includes painful and frequent urination in case of cystitis as a result of bladder infection whereas conditions like high fever and flank pain in case of kidney infection.[10]

Urinary tract infection is regarded as the common hospital acquired infection.[11,12] The infection encompasses a diverse group of clinical syndromes and diseases that differ in epidemiology, etiology, location severity of the condition.[13] In addition to the above factors, it also vary in symptoms, frequency of recurrence, extent of damage caused, presence of complicating factors.[14] The occurrence of bladder infection is usually followed by kidney infection and results in blood borne infection and in severe circumstances can lead to severe consequences including death. Therefore, UTI is capable of claiming lives under severe circumstances and proper treatment results in quick recovery from the contagion.[10]

In the presence of risk factors such as female sex, diabetes, obstructive uropathy, previous instrumentation and chronic kidney disease the treatment becomes even more challenging.[2] Various studies done worldwide have shown changing pattern in etiology of UTIs.[2] The present trends of the uropathogens and their susceptibility to various antibiotics are essential to formulate guidelines for the empirical treatment of UTIs while awaiting the culture sensitivity.[15] Hence the present study was an attempt to evaluate the changing clinical presentations and risk factors of urinary tract infections and the etiological agents in complicated and uncomplicated urinary tract infections.

OBJECTIVES

The objectives of this study were;

- To study the changing clinical presentations and risk factors of urinary tract infections.

- To evaluate the etiological agents in complicated and uncomplicated urinary tract infections.

REVIEW OF LITERATURE

Urinary tract infection may be defined as a condition in which bacteria are established and multiplying within the urinary tract. Diagnosis requires demonstration of bacteriuria. Exceptions to this include patients with pyogenic abscess of kidney or perinephric tissue, obstructed pyonephrosis or bacterial prostatitis and neutropenic in whom the urine may be sterile.[16]

Significant bacteriuria

It is the presence of 100000 or more colony forming units (CFU) per mL of urine. According to Kass[17] criteria bacterial counts of 10^2 or more organism per mL particularly when accompanied by pyuria (>10 wbc/mm^3) provide impressive evidence of urinary tract infection in symptomatic young women.[18] As per the Infectious Disease Society of America (IDSA) definition requiring 10^3 organisms per mL to diagnose cystitis and 10^4 per mL for pyelonephritis.[16,19]

A historical note on Urinary tract infections

Urinary tract infections have been described since ancient times with the first documented description in the Ebers Papyrus dated to c. 1550 BC.[20] UTI was described by the Egyptians as "sending forth heat from the bladder".[21] Effective treatment did not occur until the development and availability of antibiotics.[20,22]

The Ebers papyrus from ancient Egypt recommended herbal treatments to urinary symptoms without providing insight into pathological mechanisms. Hippocrates believed that disease was caused by disharmony of the 4 humors. The Arabian physician created a detailed classification and interpretation of urinary

disease. The early 19th century provided vivid and detailed descriptions of UTIs without the knowledge that they were caused by microorganisms. The discovery of microorganisms as the etiological agents of infectious diseases in general and inflammation associated with urinary diseases provided for physicians critically to develop evidence based strategies for UTI treatment.[23]

Treatments for UTI until the discovery of antibiotics were largely palliative because the bacterial origin of UTI was not recognized and no specific antimicrobial therapies were available.[23]

Epidemiology

Urinary tract infection (UTI) is the third most common infection experienced by humans after respiratory and gastro-intestinal infections. In fact, bacterial infections of the urinary tract are the most common cause of both community acquired and nosocomial infections for patients admitted to hospitals in United States.[16]

Worldwide, urinary tract infections affect 150 million people each year and remain as the most common bacterial infections.[1] In 2007, in the United States alone, there were an estimated 10.5 million office visits for UTI symptoms (constituting 0.9% of all ambulatory visits) and 2–3 million emergency department visits.[2-4]

Prevalence of UTI varies from 21.8% to 31.3% in various parts of India.[24]

Complicated and uncomplicated urinary tract infection

Clinically, UTIs are categorized as uncomplicated or complicated. Uncomplicated UTIs typically affect individuals who are otherwise healthy and have

no structural or neurological urinary tract abnormalities;[2,5] these infections are differentiated into lower UTIs (cystitis) and upper UTIs (pyelonephritis).[2,25]

In uncomplicated type of infection sequelae are rare and exclusive due to the morbidity associated with reinfection in a subset of women. Complicated infections include those involving the parenchyma (pyelonephritis or prostatitis) and frequently occur in the setting of obstructive uropathy or after instrumentation. Complicated UTIs are defined as UTIs associated with factors that compromise the urinary tract or host defence, including urinary obstruction, urinary retention caused by neurological disease, immunosuppression, renal failure, renal transplantation, pregnancy and the presence of foreign bodies such as calculi, indwelling catheters or other drainage devices.[6,7] In the United States, 70–80% of complicated UTIs are attributable to indwelling catheters,[8] accounting for 1 million cases per year.[4] The most common cause of secondary blood stream infection are catheter-associated UTIs (CAUTIs) and they are associated with increased morbidity and mortality. Risk factors for developing a CAUTI include prolonged catheterization, female gender, older age and diabetes.[9]

Urinary tract infections (UTIs) are caused by a wide range of pathogens, including Gram-negative and Gram-positive bacteria, as well as fungi. The most common causative agent for both uncomplicated and complicated UTIs is uropathogenic *Escherichia coli* (UPEC). For uncomplicated UTIs, other causative agents are (in order of prevalence) *Klebsiella pneumoniae (K. pneumoniae)*, *Staphylococcus saprophyticus (S. saprophyticus)*, *Enterococcus faecalis*, group B *Streptococcus* (GBS), *Proteus mirabilis*, *Pseudomonas aeruginosa (P. aeruginosa)*, *Staphylococcus aureus* and *Candida* spp. For complicated UTIs, the other causative

agents are (in order of prevalence) *Enterococcus* spp., *K. pneumoniae*, *Candida* spp., *S. aureus*, *Proteus mirabilis (P. mirabilis)*, *P. aeruginosa* and group B *Streptococcus* GBS.[2]

Anatomic location

It is useful to distinguish between upper (kidney) and lower (bladder, prostate and urethra) urinary tract infections.[16]

The localization of the site of infection on the basis of symptoms and signs can be inaccurate. Response to treatment is now used to distinguish between the two upper versus lower urinary tract infections.[26] Recurrence of bacteriuria with the same organism within seven days of single dose therapy was reported to be most often associated with upper tract infection.[16]

Recurrent infection-reinfection, relapse and treatment failure

Reinfection is a recurring infection due to a different microorganism that is usually drug susceptible. Most recurring episodes of cysto-uretheritis are due to reinfections and accounts for about 80% of recurrent infections.[27] Relapse is a return of infection due to the same micro-organism which is often drug resistant. It is defined as the recurrence of bacteriuria with the same organism within three weeks of completing treatment, which during treatment rendered the urine sterile. Relapse implies that there has been a failure to eradicate the infection. Relapse occurs in association with renal scars, stones, cystic disease or prostatitis and in patients with chronic interstitial disease or in those who are immune compromised.[16,28]

The term treatment failure has been used to describe failure to eradicate bacteriuria during treatment and failure to prevent relapse. Factors predisposing to treatment failure:[16]

- Recent antibiotic treatment
- Hospital acquired infection
- Renal or bladder calculi
- Obstructive uropathy
- Renal cysts
- Renal diseases such as reflux nephropathy, chronic interstitial nephropathy, analgesic nephropathy, diabetic nephropathy, sickle cell nephropathy, immunosuppression, and prostatitis.

Risk factors and pathogenesis

Sexually active women have a markedly increased risk of cystitis. The risk of cystitis in young men is due to uropathogenic *coli* increases because of lack of circumcision or having a partner with vaginal colonization with such P-fimbriated *E. coli*. symptomatic infections may develop at any age in both sexes in the presence of risk factors that alter urinary flow. These include:[16,29]

- Congenital anomalies
- Renal calculi
- Ureteral occlusion (partial or total)
- Vesico-ureteral reflux
- Residual Urine in bladder
    - Neurogenic bladder

- Urethral stricture
- Prostatic hypertrophy

- Instrumentation of urinary tract
  - Indwelling urinary catheters
  - Catheterization
  - Urethral dilatation
  - Cystocopy

Associations have been established between UTI and age, pregnancy, sexual intercourse, use of diaphragm and a spermicide, delayed post-coital micturition, menopause and a history of recent UTI.[16,30]

The understanding of the pathogenesis and epidemiology of urinary tract infections can facilitate early recognition and possible prevention.

Studies on pathogenesis have elucidated specific interactions between the host and microbes that are causally related to bacteriuria. Bacteria in the enteric flora periodically gain access to the genitorurinary tract.[16]

After periurethral colonization, uropathogens gain access to the bladder via the urethra, to kidney via ureters and to prostate via the ejaculatory ducts. The urethra and uretero-vesicle junction act as mechanical barriers that prevent ascension. In the bladder, the microorganisms multiply, colonize the bladder mucosa and invade mucosal surface. Although urine adequately supports the growth of most microorgranisms, the bladder has several mechanisms that prevent bacteriuria.[16,31]

- A mucopolysaccaride (urine slime) layer which covers the bladder epithelium and prevents colonization.

- Tamm-Horsfall protein is a component of uromucoid adheres to P-fimbria and prevents colonization.

- Urine flow and bladder contraction serve to prevent stasis and colonization.[16]

Adherence and colonization

Adherence is a key event and initiating step in UTI pathogenesis. A UTI typically starts with periurethral contamination by a uropathogen residing in the gut, followed by colonization of the urethra and subsequent migration of the pathogen to the bladder, an event that requires appendages such as flagella and pili.[2]

Multiple bacterial adhesins recognize receptors on the bladder epithelium (also known as the uroepithelium) and mediate colonization.[2]

By multiplying and overcoming host immune surveillance, the microorganisms can subsequently ascend to the kidneys, again attaching via adhesins or pili to colonize the renal epithelium and then producing tissue-damaging toxins.[2]

Biofilms and morphological plasticity

In response to stresses in the bladder such as starvation and immune responses microorganisms use different mechanisms for survival. By forming biofilms and undergoing morphological changes, uropathogens can persist and cause recurrent infections.[2]

Mechanisms of pathogenesis during catheter-associated urinary tract infections

Catheter-associated urinary tract infections (CAUTIs) mediated by *Proteus mirabilis* depend on the expression of mannose-resistant *Proteus*-like (MR/P) pili for initial attachment, and for biofilm formation on the catheter and in the bladder.[2]

Enterococcus faecalis pathogenesis during CAUTIs depends on catheter implantation, which results in bladder inflammation and causes fibrinogen release, deposition onto the catheter, and accumulation.[2]

Pseudomonas aeruginosa has the ability to form biofilms on catheters and damaged bladder tissue[32] through several mechanisms, including quorum sensing autoinducers that bind to the transcriptional regulators LasR (which regulates elastase (LasB) expression) and RhlR (which regulates the synthesis of rhamnolipids).[2]

Morphological changes

Uropathogens also adopt morphological changes, such as filamentation, to bypass the host immune system.[2,33,34]

Uropathogens such as UPEC survive by invading the bladder epithelium, producing toxins and proteases to release nutrients from the host cells, and synthesizing siderophores to obtain iron.[2]

Chaperone–usher pathway pili

Many uropathogens initiate a UTI using pili that mediate adhesion to host and environmental surfaces, facilitate invasion into the host tissues and promote

interbacterial interactions to form biofilms. For example, numerous Gram-negative pathogenic bacteria — including *E. coli*, *Klebsiella* spp., Proteus species *(Proteus* spp.), *Pseudomonas* species (*Pseudomonas* spp.), *Haemophilus* species (*Haemophilus* spp.), *Salmonella* species (*Salmonella* spp). and *Yersinia* species (*Yersinia* spp) express a large, highly conserved family of adhesive fibres called chaperone–usher pathway (CUP) pili.[2]

Uropathogenic *Escherichia coli*

Thirty-eight distinct CUP pilus operons have been identified in *E. coli* genomes, and a single UPEC strain can encode more than 12 different CUP pili.[2,35]

Klebsiella pneumoniae

Similarly to UPEC, *K. pneumoniae* uses type 1 pili for biofilm formation and bladder colonization.[2,36] Interestingly, although the *K. pneumoniae* adhesin FimH is highly homologous to UPEC FimH, they have different binding specificities.[2,37]

Proteus mirabilis

Following initial attachment, *P. mirabilis* produces mannose-resistant *Proteus*-like (MR/P) pili, which are CUP pili that facilitate biofilm formation and colonization of the bladder and kidneys, and are crucial for catheter-associated biofilm formation.[2]

Enterococci

Enterococci encode several adhesion factors, including the collagen adhesin Ace, enterococcal surface protein (Esp), enterococcal polysaccharide antigen (Epa), and endocarditis- and biofilm-associated (Ebp) pili.[2,38]

Other virulence factors

The bladder environment is limited in nutrients; thus, in order to survive and grow within the urinary tract, uropathogens produce proteases and toxins that damage the host tissue to release nutrients, while also providing a niche for bacterial invasion and dissemination.[2]

Urease

Urease is encoded by several uropathogens, including *P. mirabilis*,[39] *S. saprophyticus*,[40] *K. pneumoniae*[41] and *P. aureginosa*,[42] and is important for colonization and persistence during *P. mirabilis* and *S. saprophyticus* UTIs.[39,40] This enzyme catalyses the hydrolysis of urea to carbon dioxide and ammonia,[43] resulting in elevated urine pH and the production of calcium crystals (apatite) and magnesium ammonium phosphate ammoprecipitates (struvite) in urine and on catheters.[44] Importantly, the accumulation of ammonia becomes toxic for the uroepithelial cells, inducing direct tissue damage.[45]

Iron scavenging

The bladder environment is limited in iron. Thus, to be able to grow in human urine, uropathogens utilize siderophore systems for iron (Fe^{3+}) scavenging; a

siderophore responsible for binding iron and a membrane receptor that internalizes the iron bound to the siderophore.[46]

Predisposing factors of urinary tract infections

Alterations to the Host's Natural Defense Mechanisms

The host natural flora is usually altered due to actions such as extreme use of antimicrobial agent, use of contraceptive like spermicide, obstruction and stasis of urine flow can significantly alter the host's defense mechanisms and predispose to complicated UTIs. Also illness such as diabetes mellitus, sickle cell disease, gout and analgesics can also altered the host's natural defense mechanisms.[47,48]

Anatomical and Physiological Factors

A number of factors contribute to a greater prevalence of UTIs in females compared to males. In particular, female pelvic anatomy plays an important predisposing role for recurrent UTIs in female patients.[48]

Premenopausal/Menopausal Female

In premenopausal women, 90% of the vaginal flora is Lactobacilli, which protect the system against colonization with uropathogens such as E. coli, with estrogen loss at menopause, results in the thinning of the vaginal epithelium and decreased amount of glycogen. The resulting environment is usually hostile to Lactobacilli thereby decreasing their numbers.[48,49]

Age and Sex

The incidence of urinary tract infection increases with age. From the first year onwards, both first time and recurrent urinary tract infection is much more common in females. The female urethra appears to be particularly prone to colonization because of its proximity to the anus.[48,50] Men's risk for UTI increases with age, men become more susceptible to UTIs after 50 years of age, when they are more likely to develop prostate problems due to loss of prostate fluid.[48]

Obstruction

Obstruction causes stasis which leads to a rise in pressure within urinary tract, which predispose to urinary tract infection.[48,51]

Instrumentation

Bacteria develop in at least 10-15 percent of hospitalized patients with indwelling urethral catheters.[47,48]

Clinical Features

Asymptomatic bacteriuria

This is especially common in women as evidenced by a minimum prevalence of 2-4% in young and 10% in elderly women.

In contrast to women, the occurrence of asymptomatic bacteriuria in men is rare until after 55 years of age, at which time the prevalence increases per decade and approaches the rate in elderly women. Prostatic hypertrophy and increased likelihood of instrumentation account for the bacteriuria in older men.[16,52]

Symptomatic urinary tract infection

These occur in all age groups. Among newborns and infants, boys are affected more than the girls.[16]

Acute urethral syndrome

The cardinal symptoms of frequency and dysuria occur in more than 90% of ambulatory patients with acute genitourinary tract infections.[16,53]

Vaginitis

The presence of an abnormal vaginal discharge (leucorrhoea) and irritation makes vaginitis the likely cause of dysuria unless a concomitant UTI can be confirmed by culture.[16]

Urethritis

Acute urinary frequency, dysuria and pyuria in the absence of vaginal symptoms favor the diagnosis of urethritis or UTI.[16]

Prostatitis

Prostatitis is a common problem in men that causes dysuria and urinary frequency in middle-aged and younger men more frequently than urinary tract infection do. Prostate syndromes have classically been divided into four clinical entities.[16]

- Acute bacterial prostatitis
- Chronic bacterial prostatitis

- Nonbacterial prostatitis
- Prostatodynia

Acute bacterial prostatitis: The patient often appears acutely ill with the sudden onset of chills and fever, urinary frequency and urgency, dysuria, perineal and low back pain and constitutional symptoms.[16]

Chronic bacterial prostatitis: Relapsing UTIs is a hallmark of chronic bacterial prostatitis. Urinary frequency, dysuria, nocturia and low back and perineal pain are the usual symptoms, although patients may have a minimum of symptoms between UTIs.[16]

Nonbacterial prostatitis: This is the most common form of chronic prostatitis. It mimics chronic bacterial prostatitis clinically and displays inflammatory cells on post-prostate massage specimens. However, a bacteriological culture of urine and prostatic secretions are sterile.[16]

Prostatodynia: This has also been referred to as chronic noninflammatory prostatitis. Clinically, it presents with symptoms similar to other forms of chronic prostatitis. It is distinguished by the absence of inflammatory cells or uropathogens from all specimens.[16]

Diagnosis

Microscopic examination of urine

In a centrifuged sediment, patients with significant bacteriuria almost always show bacilli in the urine, whereas only approximately 10% of patients with less than 10^5 CFU per mL show bacteria. About 60-85% of patients with significant

bacteriuria have 10 or more white blood cells per high power field in the segment of mid-stream urine. Also 25% of patients with negative urine cultures also have pyuria, 10 or more white blood cells per high power field and only approximately 40% of patients with pyuria have 10^5 or more bacteria per mL of urine by qualitative cultures.[16]

Pyuria

95% of patients with pyuria have a genitourinary tract infection; however, pyuria cannot distinguish a bacterial UTI from acute urethral syndrome.[16] Tuberculosis, analgesic nephropathy, interstitial nephritis, perinephric abscess, renal cortical abscess, disseminated fungal infection and appendicitis may also result in pyuria.[16,54]

Gram strain

A simple Gram-stained smear can enhance the specificity of the test because morphology and stain characteristics aid in identifying the likely pathogen and in targeting empiric therapy.[16]

Urine culture

The diagnosis of UTI from simple cystitis to complicated pyelonephritis with sepsis can be established with absolute certainty only by cultures of urine. The major indications for urine cultures are:[16]

- Patients with symptoms or signs of UTIs;
- Follow-up of recently treated UTI
- Removal of indwelling urinary catheter;

- Screening for asymptomatic bacteriuria during pregnancy; and
- Patients with obstructive uropathy and stasis, before instrumentation.

Urine specimens must be cultured promptly within 2h or can be preserved by refrigeration or a suitable chemical additive (boric acid sodium formate). Acceptable methods of collection are:[16]

- Midstream urine after careful washing;
- Urine obtained by single catheterization;
- Urine obtained by supra pubic needle aspiration; and
- Sterile needle aspiration of urine from the tube of a closed catheter drainage system.

Results of cultures depend on the clinical setting in which bacteriuria occurs. For example, *E. coli* are found in the urine of 80-90% of patients with acute uncomplicated cystitis and acute uncomplicated pyelonephritis. Many patients with staghorn calculi harbour urea-splitting proteus organisms in their urine. *Klebsiella*, *Pseudomonas* and *Enterobacter* infections are commonly acquired in the hospital. The presence of *Staphylococcus aureus* often is a clue to concomitant *Staphylococcal* bacteremia, unless an underlying risk factor exists.[16]

Imaging studies

In general, imaging should be done 3-6 weeks after cure of acute infection to identify abnormalities predisposing to infection or renal damage or which may affect management. Rarely, imaging is carried out in the acute phase, particularly where there is severe loin pain, to identify possible sepsis (pyonephrosis or abscess) or to

differentiate acute pyelonephritis from ureteric colic. It is important to recognize that abnormalities will be found in less than 5% of unselected cases.[16,55]

Plain X-ray of abdomen

These are used to show the presence and extent of calcification in the urinary tract. They are less sensitive in the detection of ureteric calculi.[16]

Ultrasound

It is a sensitive detector of pelvicalyceal dilatation, indicative of possible obstruction. Echoes within a dilated pelvicalyceal system, either diffuse or layered, suggest the presence of pyonephrosis. Drainage of an obstructed kidney can be guided by ultrasonography. It provides accurate renal length measurements and identifies the majority of renal scars, abscesses and perinephric fluid collections.[56]

It can also assess the bladder for wall thickness, calculi, diverticula and emptying as well as assess prostate size.[16]

Intravenous urography

Intravenous urography (IVU) provides anatomical detail of the calyces, pelvis and ureter not obtained from ultrasonography. Calyceal detail is essential to diagnose papillary necrosis and medullary sponge kidney and careful assessment of the calyces and overlying parenchyma is necessary to diagnose reflex nephropathy.[16]

Computed tomography

CT is the most common method of detecting renal and ureteric calculi, including calculi that are lucent on plain radiographs. It is a sensitive detector of

pelvicalyceal dilatations, renal abscesses and perinephric collections than ultrasonography. Contrast enhanced CT is very sensitive for acute pyelonephritis.[16,57]

Static renal scintigraphy

Di-mercapto-succinic acid (DMSA) scintigraphy is a sensitive detector of renal parenchymal infection in children.[16]

Management of Urinary Tract Infections

Management of urinary tract infections typically involves drug therapy and patients' education. The ideal treatment of urinary tract infection is an antibacterial agent that effectively eradicates bacteria from the urinary tract with minimal effects on fecal and vaginal flora, thereby minimizing the incidence of vaginal yeast infections. The antibacterial agent used for the management of uropathogen should be affordable, produce few side effects and of low resistance. Various treatments regimen have been used successfully to treat uncomplicated lower urinary tract infections in women. Early recognition of urinary tract infection and prompt treatment are essential to prevent recurrent infection and complications such as renal failure and sepsis. The role of treatment is to prevent infection from progressing and causing permanent renal damage and failure. For management to be effective, patients must be taught how to recognize early signs and symptoms and to initiate treatment as prescribed. Also antimicrobial therapy should be initiated promptly after a proper urine culture is obtained.[48]

Studies on clinical presentations, risk factors and etiological agents of urinary tract infections

A study done by Ruhi Khan et.al.[58] demonstrated that significant bacteriuria was detected in 19.3% and 55.4% of asymptomatic and symptomatic patients respectively. Among adult patients with UTI visiting outpatient department, women of reproductive age(21-50years) constituted the main group (81. 7%).However, elderly males (>60yrs) had a higher incidence of UTI (38.1%) compared to elderly females (10.8%). Diabetes, female sex, obstructive uropathy, previous instrumentation and chronic disease being the major risk factors. The most common pathogens isolated were Escherichia coli (E. coli) (52.4%) followed by Klebsiella pneumoniae (K. pneumoniae) (12.3%) citrobacter spp (9.1%).

In a study done by Getenet Beyene et al.[59] significant bacteria was detected in 9.2% of the total patients admitted in a hospital. The most common pathogens isolated were Escherichia Coli (33.3%), Klebsiella pneumoniae (19%) and S.saprophyticus (14.3%)

In a study done by George CE et al.[24] the prevalence of urinary tract infection was 32.1% in patients visiting outpatient department with symptoms of UTI. Gram negative bacteria constituted the largest group with a prevalence of 84.1%, with E.Coli being the most common (70%) uropathogen.

A study done by Stefaniuk E. et al.[60] demonstrated that out of 396 bacterial isolates, 144 patients were diagnosed with uncomplicated UTI and 237 patients were diagnosed with complicated infection .E.Coli (71.4%) was the most frequently isolated species from both complicated and uncomplicated UTI, followed by

Klebsiella spp (10.8%) and the proteae spp (7.6%). E.Coli was responsible for 80.6% of cases compared to 65.8% of complicated cases. The proportion of Klebsiella species and Proteus species causing complicated UTI was higher compared to those causing uncomplicated infections.

Manjula NG et al.[61] in 2013 reported a study to determine the incidence of UTI and prevalence of uropathogens among pregnant women at Gulbarga India. from December 2009 to August 2010, 417 urine samples were analyzed. UTI was diagnosed by growth of at least 105 CFU/mL of a urinary tract pathogen in a culture of a midstream urine sample. The isolated bacteria were identified by biochemical tests. The results showed that 49.4% of pregnant women have UTI. E. coli which was the most frequently isolated organism (56.79%), followed by Klebsiella sps (19.9%), Pseudomonas sps (6.3%), and Proteus sps (5.8%). Other pathogens isolated were Enterobacter (3.8%), Citrobacter (1.4%) and Enterococcus sps (0.9%). Of the variables examined, the highest prevalence rate was observed where, 53.3% of the infected women were in the age group 36 to 40 years, 54.15% were in their 3rd trimester; also the highest infection rate (70.2%) was observed in 7th month of pregnancy, concluding that old age pregnancy increased parity prone for UTI apart from individual hygiene and economical status.

Moue A. et al.[62] in 2015 carried out a study to identify the causative organism for UTI among outpatient department (OPD) and inpatient department (IPD) patients of Anwer Khan Modern Medical College and Hospital, Dhaka, Bangladesh and also to see the antibiotic sensitivity pattern of the isolate according to age and sex. A total of 376 urine specimens received over the six months study period, 79.5 % (299) of the urine samples were culture positive. The female was

more prone to UTI which was 79% (239) rather than male follows 21% (60). IPD patients showed 55.5% (166) positive culture compared to as OPD patients as 44.5 % (133). The age variation according to sex was found for causing UTI. Therefore, 21-30 years aged female group showed 48.5% and 4150 years aged male group had 46.7% UTI. The most common bacterial isolate was E. coli 46.8% (140) followed by Enterococcus faecalis 25.9% (77) Pseudomonas aeruginosa 11.4% (34), Staphylococcus saprophyticus 8% (24).

Eshwarappa M. et al.[15] reported a study in 2011 to determine the presentation and risk factors associated with community-acquired urinary tract infection (CA-UTI). The distribution of bacterial strains isolated from these patients and their resistance pattern were also studied. This multidisciplinary prospective observational study was conducted in M. S. Ramaiah Hospital, Bangalore, between January and December, 2008. Patients who had CA-UTI confirmed by positive urine culture reports were included in the study. Statistical analysis was done using the SPSS version 16. Symptomatology and others risk factors for CA-UTI were studied in these patients and the causative organisms and their resistance patterns were recorded. Of the total 510 patients included, 57% belonged to the elderly age group (50–79 years). Fever and dysuria were the most common clinical presentation, but were not specific in predicting CA-UTI. Escherichia coli (66.9%) was the most common organism causing CA-UTIs.

Recently Raval R. et al.[63] reported a study (2015) to understand the clino-pathological characteristics of urinary tract infection along with the techniques used in diagnosis and treatment of the presenting infection. The study considered the various risk factors such as age, sex, and diabetes mellitus which can precipitate a

urinary tract infection. The study was conducted at the Global Baroda Hospital, Vadodara and Narhari Hospital, Vadodara in the duration from January to March 2012. A questionnaire was prepared in accordance to evaluate risk factors of urinary tract infection. The patients under study were chosen according to specific inclusion criteria. The uropathogens were isolated with the help of biochemical testing. *E. coli* (38%) was found to be the most prevalent organism followed by *Klebsiella* and *Candida albicans* (both 10%), *Pseudomonas aeruginosa* (9%), *Staphylococcus* (7%).

METHODOLOGY

The present study was conducted in the Department of Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi.

Study design

The study design was a one year cross sectional study.

Study period and duration

This study was conducted for the period of one year from January 2016 to December 2016.

Source of Data

Patients with symptoms of urinary tract infection and/or with urinary tract infection confirmed by urine microscopy in the admitted in the Department of Medicine and Nephrology, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi during the study period were enrolled in the study.

Sample size

Based on universal method a total of 500 patients with urinary tract infection fulfilling the selection criteria were selected for the study.

Sampling procedure

Based on universal method, all the cases admitted with urinary tract infection and positive for urinary culture fulfilling selection criteria were included in this study.

Selection criteria

Inclusion

- Patients admitted with symptoms of urinary tract infections.
- UTI confirmed by the positive urinary culture reports.

Exclusion

- Patients aged < 18 years.

Ethical clearance

Prior to the commencement, the ethical clearance was obtained from Institutional Ethics Committee, Jawaharlal Nehru Medical College, Belagavi.

Informed Consent

The patients willing to participate in the study were enrolled after obtaining a written informed consent (Annexure I).

Method of collection of data

Demographic data such as age, sex were noted. Patients were interviewed and detailed history was obtained. Physical examination was done followed by

systemic examination. These findings were recorded on a predesigned and pretested proforma (Annexure II).

Investigations

The patients were evaluated for following laboratory markers.

- Total count
- Serum creatinine
- Urine routine and microscopy
- Urine culture and sensitivity
- Imaging

Outcome variables

Patients were evaluated for;

- Clinical signs and symptoms in order to assess clinical presentation.
- Urine culture in order to assess etiological agents.
- Diagnosis and history so as to determine the risk factors.

Statistical analysis

The data obtained was coded and entered into Microsoft Excel Worksheet. The data was analysed using SPSS version 20.0 statistical software. The categorical data was expressed in terms of rates, ratios and proportions and the continuous data was expressed as mean±standard deviation (SD).

RESULTS

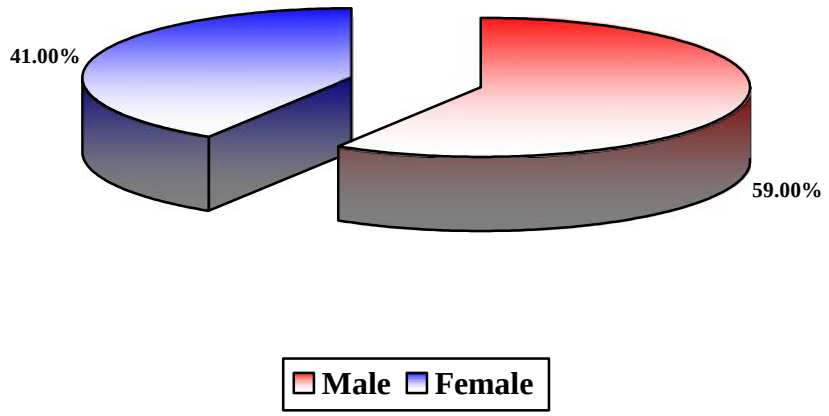
The present one year cross sectional study was conducted in the Department of Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi. A total of 500 patients with signs and symptoms of urinary tract infection and/or with urinary tract infection confirmed by urine culture admitted in the Department of Medicine and Nephrology, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi were studied.

The data obtained was analysed and the final results were tabulated and interpreted as below.

Table 1. Distribution of study population according to the sex

Sex	Distribution (n=500)	
	Number	**Percentage**
Male	295	59.00
Female	205	41.00
Total	**500**	**100.00**

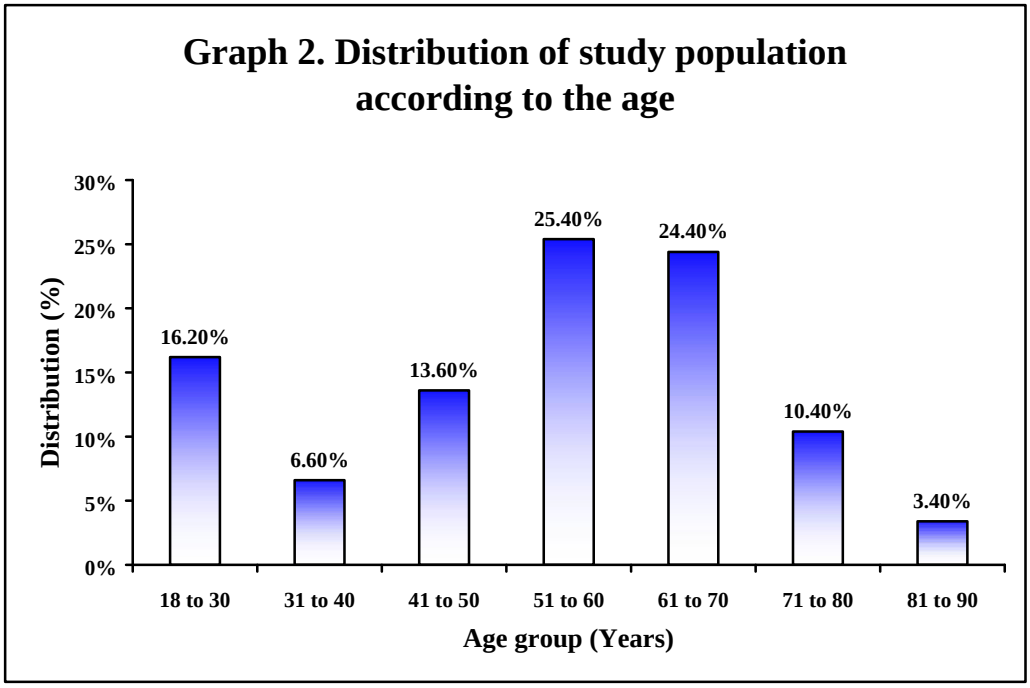
Graph 1. Distribution of study population according to the sex



In the present study 59.00% of the patients were males while 41.00% of the patients were females. The male to female ratio was 1.43:1.

Table 2. Distribution of study population according to the age

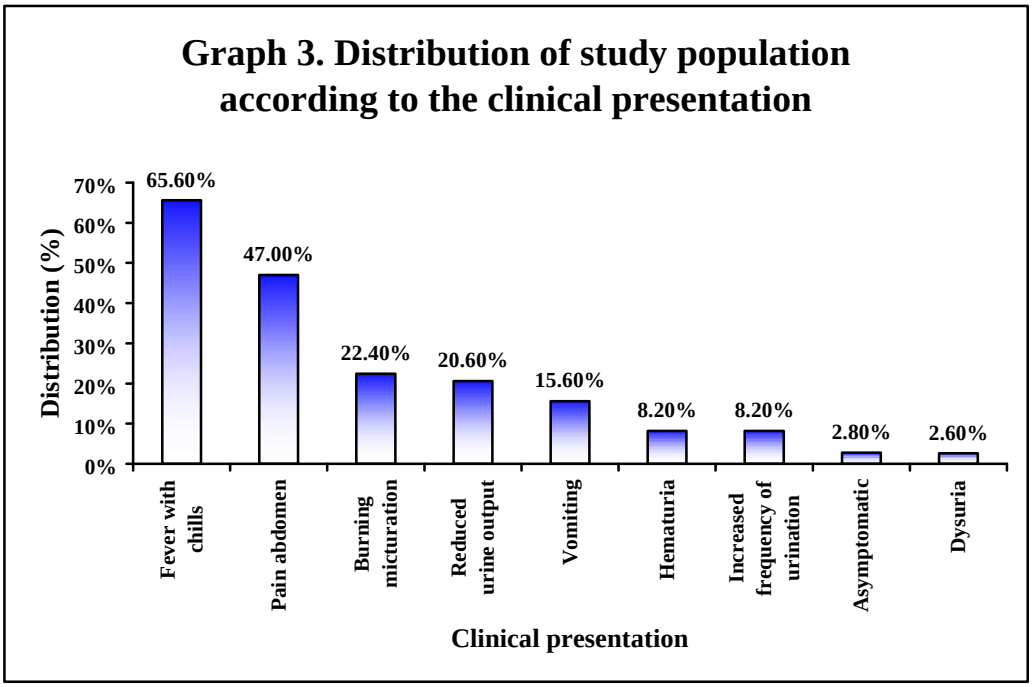
Age group (Years)	Distribution (n=500)	
	Number	**Percentage**
18 to 30	81	16.20
31 to 40	33	6.60
41 to 50	68	13.60
51 to 60	127	25.40
61 to 70	122	24.40
71 to 80	52	10.40
81 to 90	17	3.40
Total	**500**	**100.00**



In this study 25.40% of the patients were aged between 51 to 60 years. The mean age was 53.60±17.55 years. The median age was 56 years and ranged between 18 to 90 years.

Table 3. Distribution of patients according to the clinical presentation

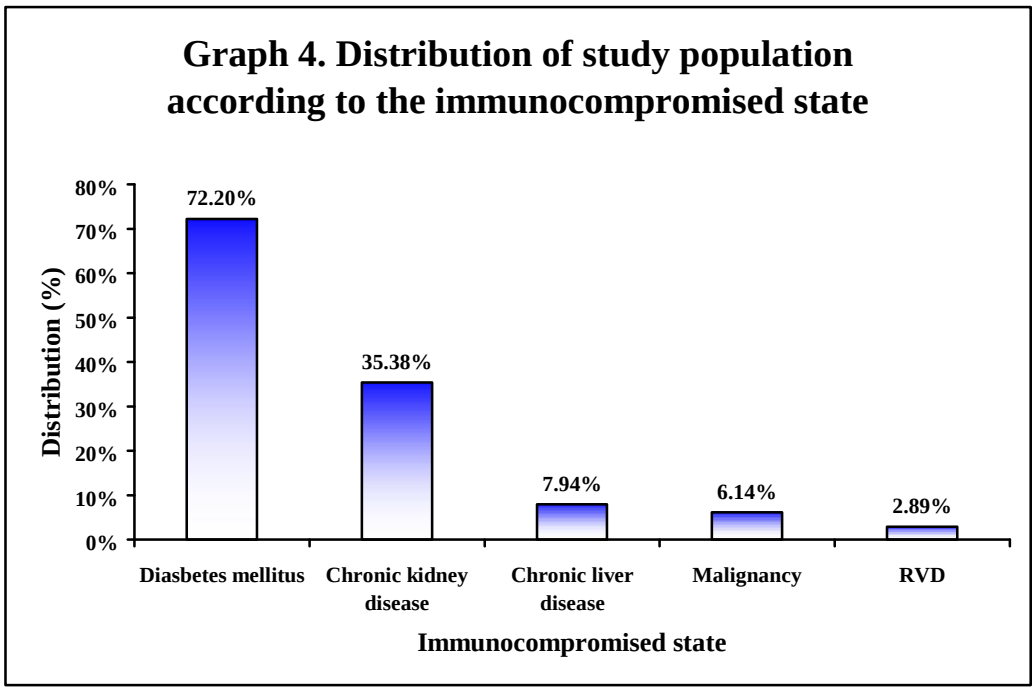
Clinical presentation	Distribution (n=500)	
	Number	Percentage
Fever with chills	328	65.60
Pain abdomen	235	47.00
Burning micturation	112	22.40
Reduced urine output	103	20.60
Vomiting	78	15.60
Hematuria	41	8.20
Increased frequency of urination	41	8.20
Asymptomatic	14	2.80
Dysuria	13	2.60



In the present study on clinical presentation most of the patients had fever with chills (65.60%), followed by pain abdomen (47.00%), burning and micturation (22.40%), reduced urine output (20.60%), vomiting (15.60%), hematuria and increased frequency of urination (8.20%) each, asymptomatic (2.80%) and dysuria (2.60%).

Table 4. Distribution of patients according to the immunocompromised state

Immunocompromised state	Distribution (n=277)	
	Number	**Percentage**
Diabetes mellitus	200	72.20
Chronic kidney disease	96	35.38
Chronic liver disease	22	7.94
Malignancy	17	6.14
Renovascular disease (RVD)	8	2.89

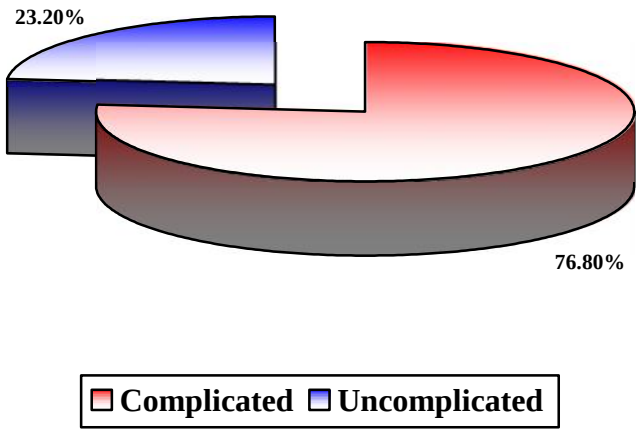


In this study most of the patients had diabetes mellitus (72.20%) followed by chronic kidney disease (35.38%), chronic liver disease (7.94%), malignancy (6.14%) and RVD (2.89%).

Table 5. Distribution of study population according to the type of UTI

Type	Distribution (n=500)	
	Number	**Percentage**
Complicated	384	76.80
Uncomplicated	116	23.20
Total	**500**	**100.00**

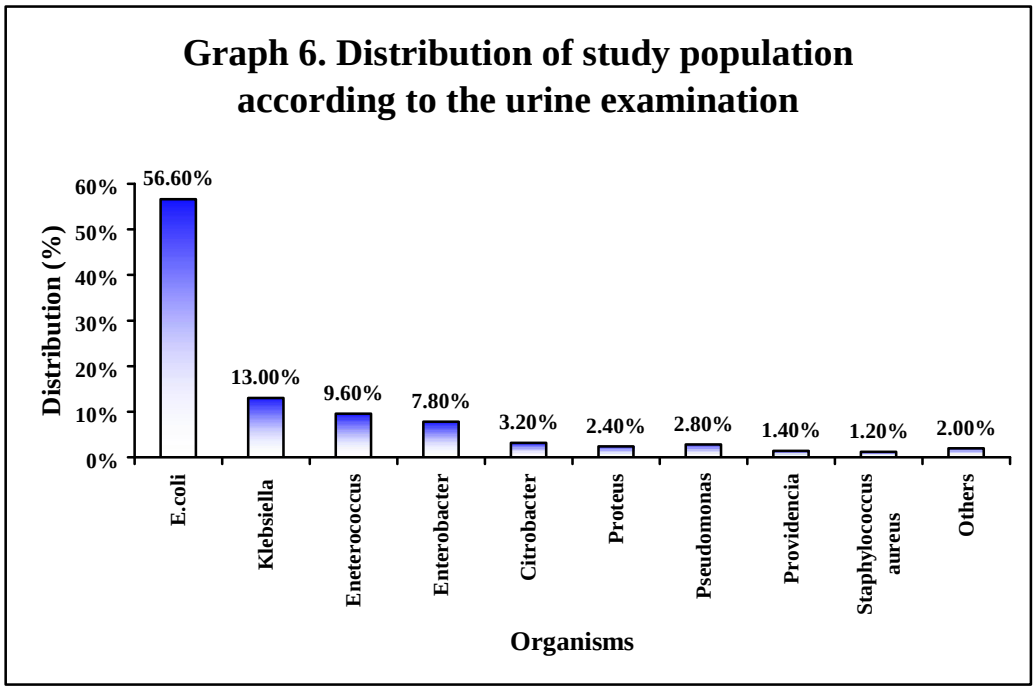
Graph 5. Distribution of study population according to the type of UTI



In this study 76.80% of the patients had complicated type of UTI while 23.20% of the patients had uncomplicated UTI.

Table 6. Distribution of study population according to the urine examination

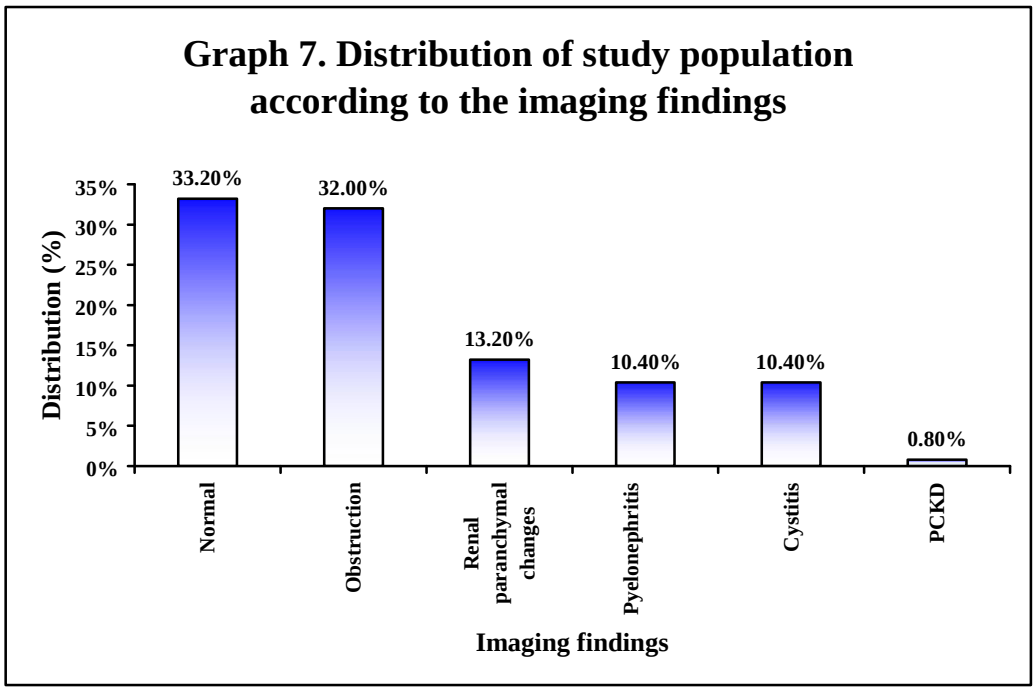
Organisms		Distribution (n=500)	
		Number	**Percentage**
E.coli		283	56.60
Klebsiella	K.Pneumonia	57	11.40
	Klebsiella oxytoca (K.Oxytoca)	8	1.60
	Total	*65*	*13.00*
Eneterococcus	Enterococcus	26	5.20
	Enterococcus faecium	11	2.20
	Enterococcus Fecalis	9	1.80
	Eneterococcus Gallinarium	1	0.20
	Enterococcus.Faecium	1	0.20
	Total	*48*	*9.60*
Enterobacter	Enterobacter cloacae	20	4.00
	Enterobacter. sp.	16	3.20
	Enterobacter fecalis	1	0.20
	Enterobacter Aerogens	1	0.20
	Seratia	1	0.20
	Total	*39*	*7.80*
Citrobacter	Citrobacter freundi.	14	2.80
	Citrobacter spp.	1	0.20
	Citrobacter Rosae	1	0.20
	Total	*16*	*3.20*
Proteus	Proteus Mirabilis	6	1.20
	proteus vulgaris	6	1.20
	Total	*12*	*2.40*
Pseudomonas		*14*	*2.80*
Providencia	Providencia religion	6	1.20
	Providentia Rottigera	1	0.20
	Total	*7*	*1.40*
Staphylococcus Aureus		*6*	*1.20*
Others	Kluyvera Ascorbata	6	1.20
	Morganella Morganii	2	0.40
	Streptococcus Pneumonia	1	0.20
	Yersinia Enterocolitica	1	0.20
	Total	*10*	*2.00*
	Grand total	**500**	**100.00**



In the present study urine microscopic examination revealed E. coli as the most common organism (56.60%), followed by Klebsiella (13.00%). The other organisms are as depicted in table 6 and graph 6.

Table 7. Distribution of study population according to the imaging findings

Findings	Distribution (n=500)	
	Number	**Percentage**
Normal	166	33.20
Obstruction	160	32.00
Renal paranchymal changes	66	13.20
Cystitis	52	10.40
Pyelonephritis	52	10.40
PCKD	4	0.80
Total	**500**	**100.00**

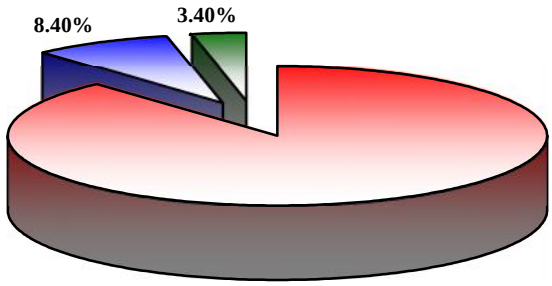


In this study imaging findings were normal in 33.20% of the patients. In the remaining, obstruction was noted in 32% of the patients, renal parenchymal changes in 13.20%, cystitis and pyelonephritis in 10.4% each and PCKD in 0.8% of the patients.

Table 8. Distribution of patients according to the type of infection

Type of infection		Distribution (n=500)	
		Number	**Percentage**
Community acquired		441	88.20
Nosocomial	Catheter	42	8.40
	Non catheter	17	3.40
Total		**500**	**100.00**

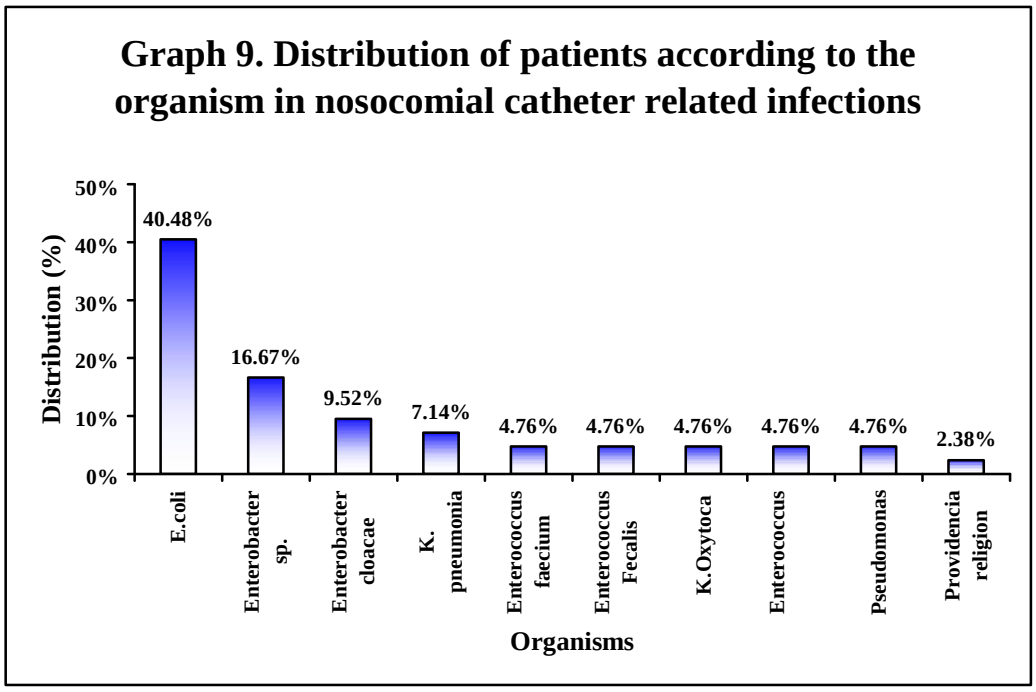
Graph 8. Distribution of patients according to the type of infection



In the present study majority of the patients (88.20%) had community acquired infection while 8.40% and 3.40% of the patients had catheter related nosocomial infection and non catheter nosocomial infection respectively.

Table 9. Distribution of patients according to the organism in nosocomial catheter related infections

Organisms	Distribution (n=42)	
	Number	**Percentage**
E. Coli	17	40.48
Enterobacter. sp.	7	16.67
Enterobacter cloacae	4	9.52
K.Pneumonia	3	7.14
Enterococcus faecium	2	4.76
Enterococcus Fecalis	2	4.76
K.Oxytoca	2	4.76
Enterococcus	2	4.76
Pseudomonas	2	4.76
Providencia religion	1	2.38
Total	**42**	**100.00**

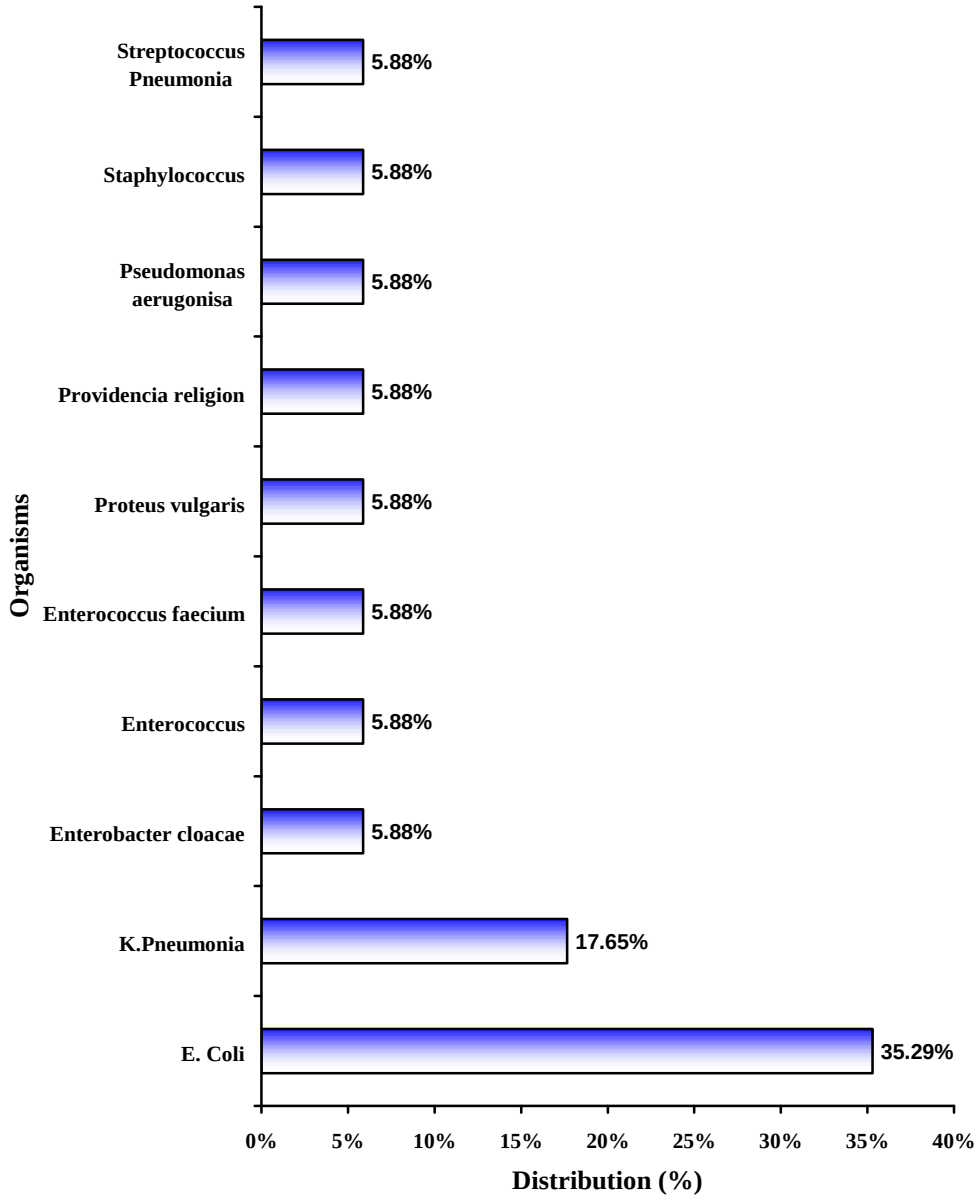


In this study E. coli (40.48%) was the most common organism isolated in patients with nosocomial catheter related infections.

Table 10. Distribution of patients according to the organism in nosocomial noncatheter related infections

Organisms	Distribution (n=17)	
	Number	**Percentage**
E. Coli	6	35.29
K.Pneumonia	3	17.65
Enterobacter cloacae	1	5.88
Enterococcus	1	5.88
Enterococcus faecium	1	5.88
Proteus vulgaris	1	5.88
Providencia religion	1	5.88
Pseudomonas aerugonisa	1	5.88
Staphylococcus	1	5.88
Streptococcus Pneumonia	1	5.88
Total	**17**	**100.00**

Graph 10. Distribution of patients according to the organism in nosocomial noncatheter related infections

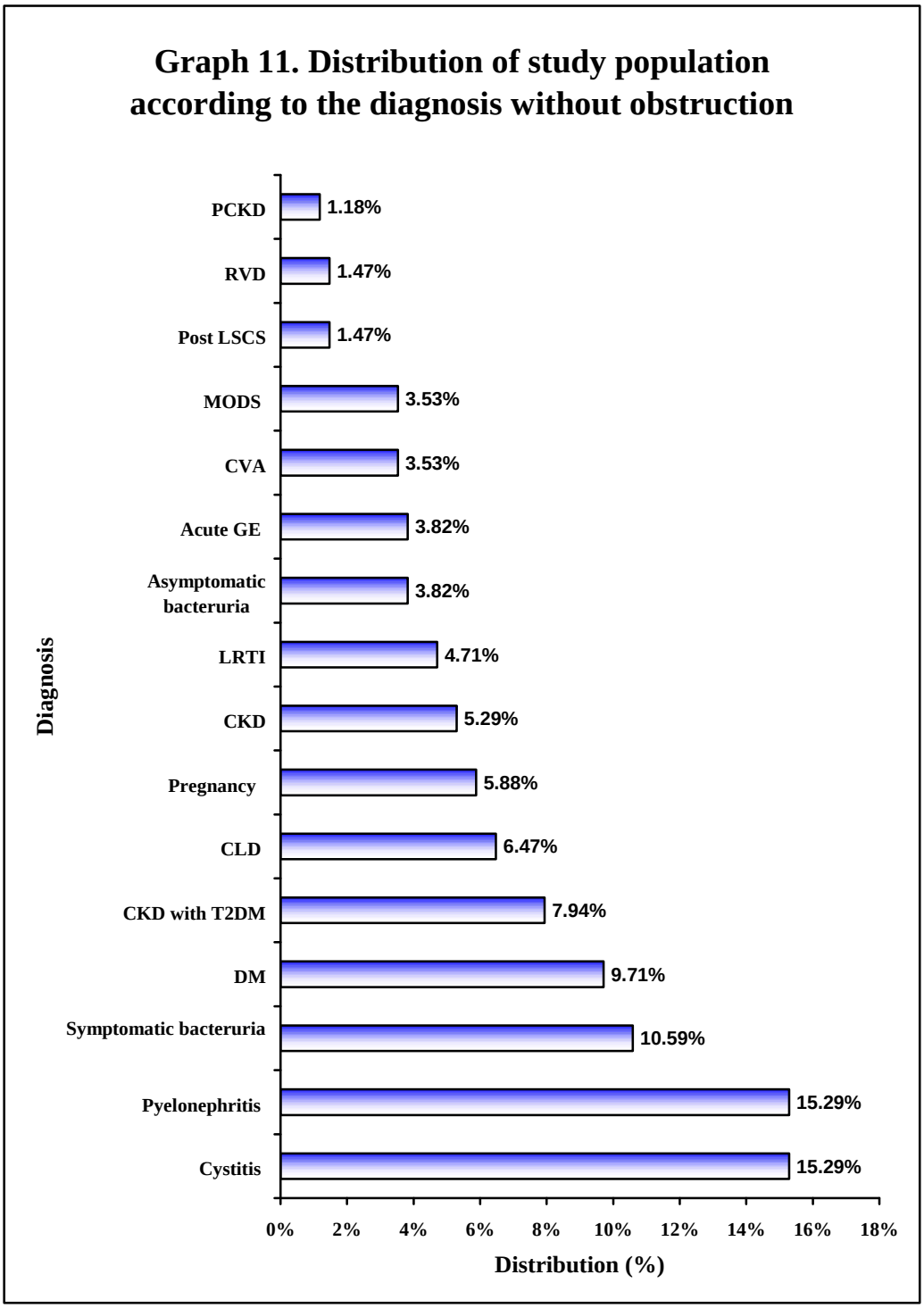


In the present study E. coli (35.29%) was the most common organism isolated in patients with nosocomial noncatheter related infections.

Table 11. Distribution of study population according to the diagnosis without obstruction

Diagnosis without obstruction	Distribution (n=340)	
	Number	**Percentage**
Cystitis	52	15.29
Pyelonephritis	52	15.29
Symptomatic bacteruria	36	10.59
DM	33	9.71
Chronic kidney disease (CKD) with T2DM	27	7.94
Chronic liver disease (CLD)	22	6.47
Pregnancy	20	5.88
CKD	18	5.29
Lower respiratory tract infection (LRTI)	16	4.71
Asymptomatic bacteruria	13	3.82
CVA	12	3.53
MODS	12	3.53
Acute GE	13	3.82
Post LSCS	5	1.47
RVD	5	1.47
PCKD	4	1.18
Total	**340**	**100.00**

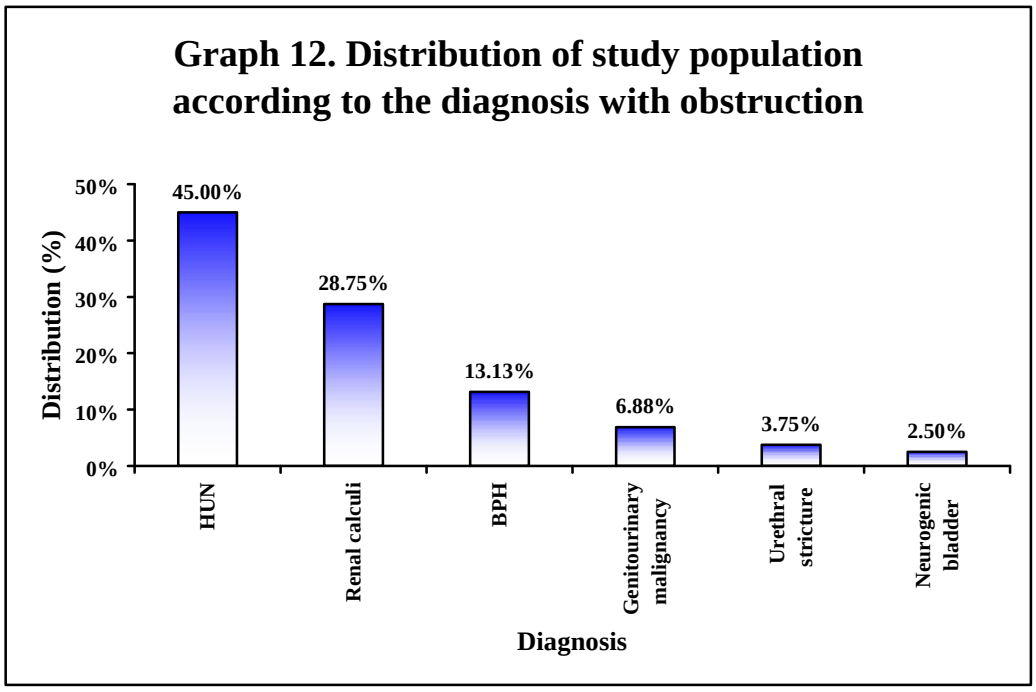
Graph 11. Distribution of study population according to the diagnosis without obstruction



In this study cystitis and pyelonephritis (15.29% each) were the most common diagnosis among the patients without obstruction.

Table 12. Distribution of study population according to the diagnosis with obstruction

Diagnosis with obstruction	Distribution (n=160)	
	Number	**Percentage**
HUN	72	45.00
Renal calculi	46	28.75
BPH	21	13.13
Genitourinary malignancy	11	6.88
Urethral stricture	6	3.75
Neurogenic bladder	4	2.50
Total	**160**	**100.00**

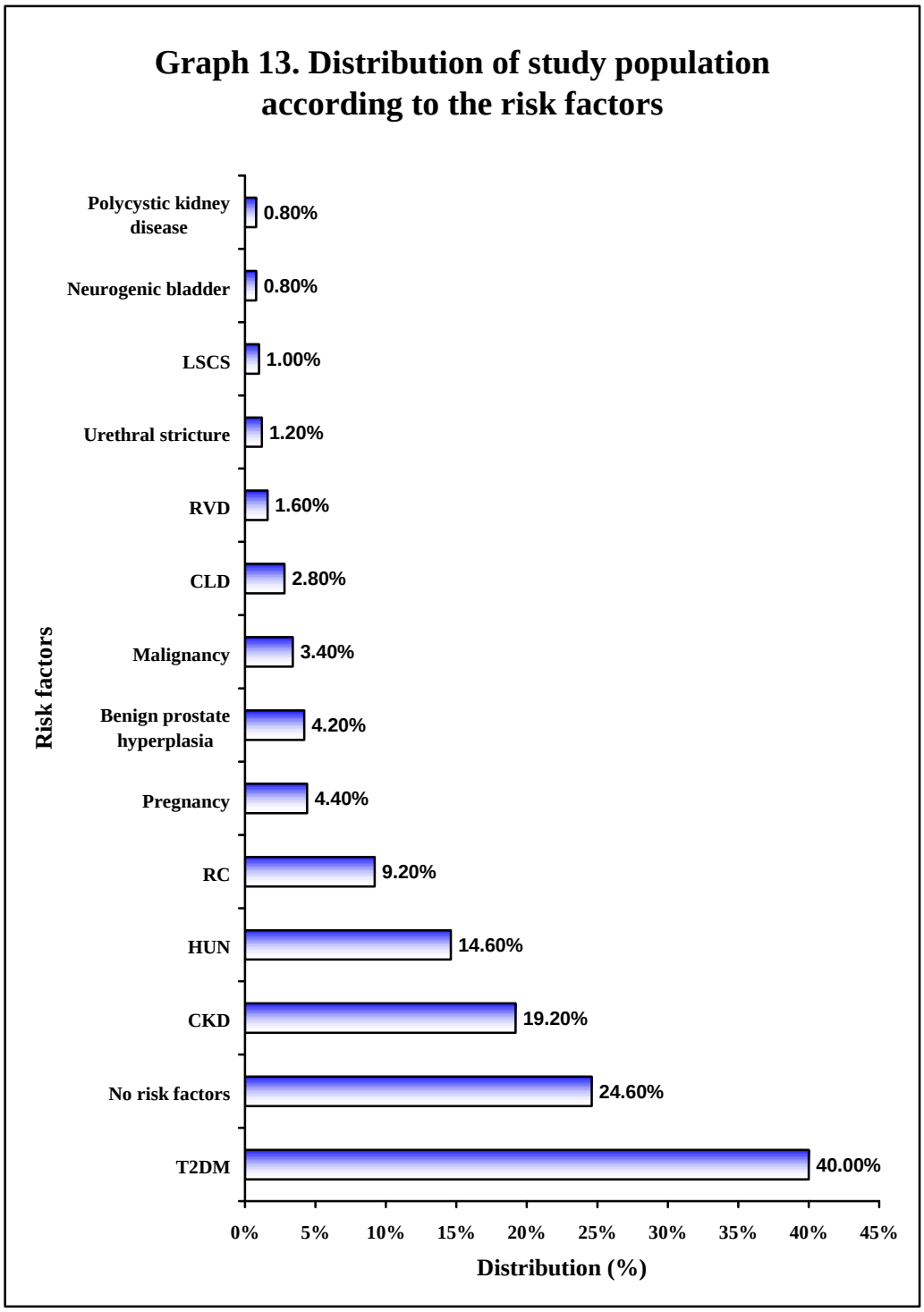


In this study HUN (45%) was the most common diagnosis among the patients with obstruction.

Table 13. Distribution of study population according to the risk factors

Risk factors	Distribution (n=500)	
	Number	**Percentage**
T2DM	200	40.00
No risk factors	123	24.60
CKD	96	19.20
HUN	73	14.60
RC	46	9.20
Benign prostate hyperplasia	21	4.20
Pregnancy	22	4.40
Malignancy	17	3.40
CLD	14	2.80
RVD	8	1.60
Urethral stricture	6	1.20
LSCS	5	1.00
Polycystic kidney disease	4	0.80
Neurogenic bladder	4	0.80

Graph 13. Distribution of study population according to the risk factors

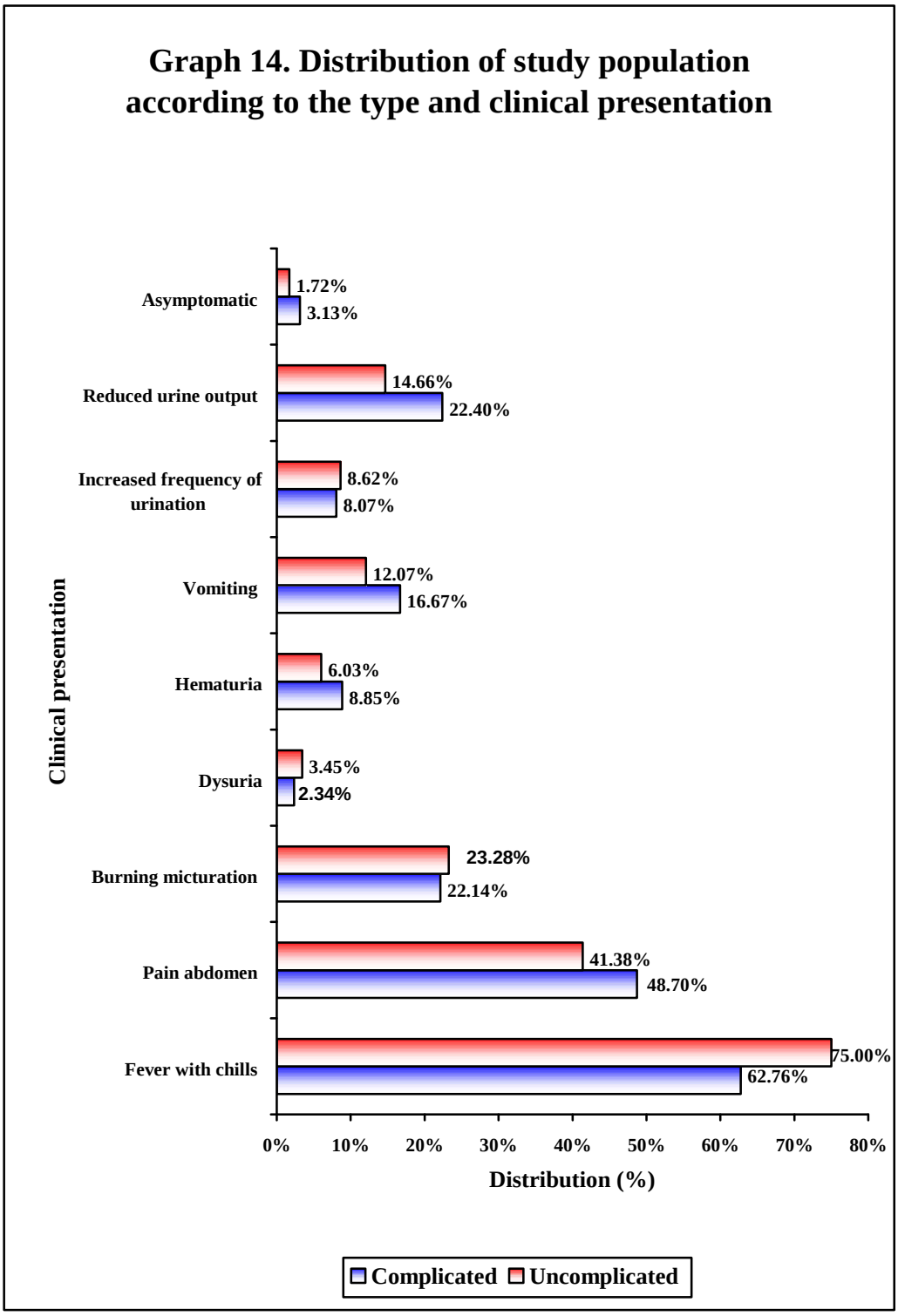


In the present study the most common risk factor was type 2 diabetes mellitus (40%) followed by CKD (19.2%) and HUN (14.60%). The other risk factors are as depicted in table 13 and graph 13.

Table 14. Distribution of study population according to the type and clinical presentation

Clinical presentation	Type			
	Complicated (n=384)		Uncomplicated (n=116)	
	Number	Percentage	Number	Percentage
Fever with chills	241	62.76	87	75.00
Pain abdomen	187	48.70	48	41.38
Burning micturation	85	22.14	27	23.28
Dysuria	9	2.34	4	3.45
Hematuria	34	8.85	7	6.03
Vomiting	64	16.67	14	12.07
Increased frequency of urination	31	8.07	10	8.62
Reduced urine output	86	22.40	17	14.66
Asymptomatic	12	3.13	2	1.72

Graph 14. Distribution of study population according to the type and clinical presentation

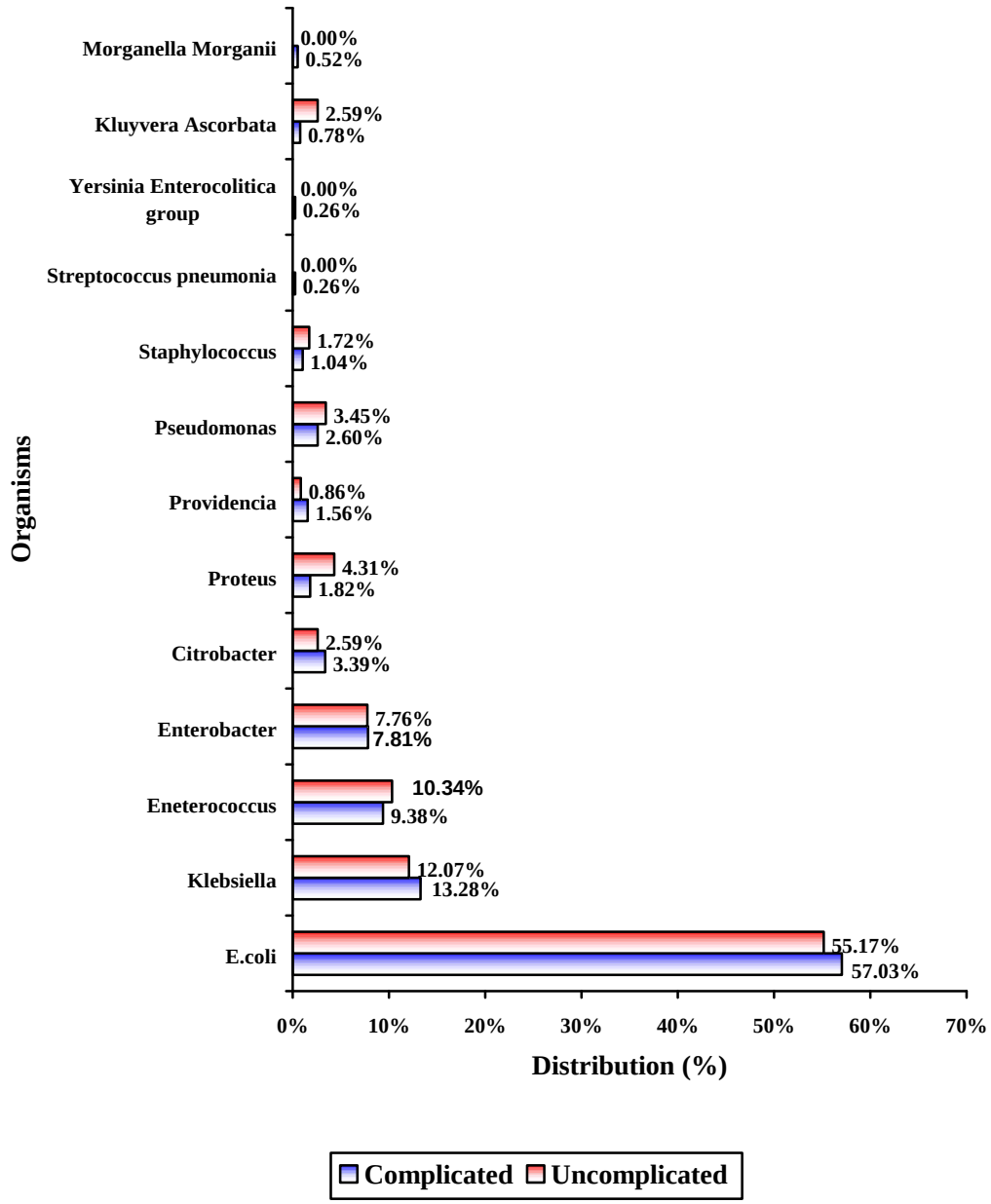


In the present study the most common clinical presentation was fever with chills in patients with complicated UTI (62.76%) and in patients with uncomplicated UTI (75%).

Table 15. Distribution of study population according to the organism and type of UTI.

Organisms	Type			
	Complicated (n=384)		Uncomplicated (n=116)	
	No.	%	No.	%
E.coli	219	57.03	64	55.17
Eneterococcus	36	9.38	12	10.34
Enterobacter	30	7.81	9	7.76
Klebsiella	51	13.28	14	12.07
Citrobacter	13	3.39	3	2.59
Pseudomonas	10	2.60	4	3.45
Proteus	7	1.82	5	4.31
Providencia	6	1.56	1	0.86
Staphylococcus	4	1.04	2	1.72
Streptococcus Pneumonia	1	0.26	0	0.00
Yersinia Enterocolitica group	1	0.26	0	0.00
Kluyvera Ascorbata	3	0.78	3	2.59
Morganella Morganii	2	0.52	0	0.00

Graph 15. Distribution of study population according to the organism and type of UTI



In this study E. coli was the most common organism isolated in patients with complicated (57.03%) and uncomplicated UTI (55.17%).

DISCUSSION

The etiology, cause and antimicrobial susceptibility pattern of uropathogens has been changing over years.[64] Effective management of patients suffering from bacterial UTIs commonly relays on the identification of type of organisms that caused the disease and selection of an effective antibiotic agent to the organism. Diagnosis of UTIs is a good example of the need for close cooperation between the clinician and the microbiologist.[62] This study was designed to evaluate the changing clinical presentations and risk factors of urinary tract infections and the etiological agents in complicated and uncomplicated urinary tract infections.

This one year cross sectional study was done under the Department of Medicine, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi. A total of 500 patients with signs and symptoms of urinary tract infection and/or with urinary tract infection confirmed by urine microscopy in the admitted in the Department of Medicine and Nephrology, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi were studied.

It is reported that, women are more prone to UTIs than men. The reason behind this high prevalence of UTI in females is due to close proximity of the urethral meatus to the anus, shorter and wider urethra, sexual intercourse, incontinence, and less acidic pH of vaginal surface and poor hygienic conditions.[58,65,66] However, in the present study slight male preponderance was noted as 59.00% of the patients were males and 41.00% of the patients were females with male female ratio of 1.43:1. In contrast to these observations, other study by Momoh et al.[67] (2011) reported UTIs in 60.2% of the females and 39.8% of males.

The male preponderance observed in the present study may be explained by the facts that, men's risk for UTI increases with age, prostatic enlargement after 50 years of age and males are more likely to visit hospital more than females.

The incidence of urinary tract infection increases with age.[48] In the present study age ranged between 18 to 90 years. The most common age group was 51 to 60 years comprised of 25.40% of the patients and the mean age was 53.60 ±17.55 years. These findings were consistent with a study by Raval R. et al.[63] (2015) from Vadodara, India.

Urinary tract infection usually develops in the lower urinary tract (urethra and bladder) and if not properly treated they ascend to the upper urinary tract (ureters and kidneys) and cause severe damaged to the kidneys.[48] In the present study 76.80% of the patients had complicated type of UTI while 23.20% of the patients had uncomplicated UTI. These findings were consistent with a study by Stefaniuk E, et al.[60] (2016) who reported 37.8% of patients with uncomplicated UTI and 62.2 % had a complicated infection.

In the present study the most common clinical presentation was fever with chills noted in 65.60% of the patients followed by lower abdominal pain which was present in 47.00% of the patients. The other presentations were burning and micturation (22.40%), reduced urine output (20.60%), vomiting (15.60%), hematuria, increased frequency of urination (8.20% each) and dysuria (2.60%). However 2.80% of the patients were asymptomatic. Further, the most common clinical presentation was fever with chills in patients with complicated UTI (62.92%) and in patients with uncomplicated UTI (75%). Khan R. et al.[58] (2015) in their study also reported that,

most of the patients with symptomatic UTI complained of mild fever, increased frequency and burning during micturition along with urgency. A study done by Eshwarappa et.al.[15] (2011) demonstrated that fever and dysuria were the most common clinical presentation.

In the present study the most common risk factor was type 2 diabetes mellitus (40%) followed by CKD (19.2%), HUN (14.6%), renal calculi (9.20%), pregnancy (4.40%), BPH (4.20%). In a study by Khan R. et al.[58] (2015) 52.6% of the patients with diabetes mellitus were diagnosed to have UTI. Another study by Eshwarappa M. et al.[15] (2011) reported that diabetes was the most common factor associated with complicated UTI which consistent with the present study as 47.13% of the patients with complicated UTI had diabetes mellitus. Nicole LE et al.[68] (2000) reported that, the risk of developing urinary tract infection in diabetic patients is higher and urinary tract is the most common site for infection. In a study by George CE et al.[24] (2015) the prevalence of UTI was more in diabetics (44.4%) than non-diabetics (29.4%).

In the present study E. coli was the most common organism isolated in 56.40% of the patients followed by Klebsiella (13%) and enterococcus (9.60%). Furtheremore, E. coli (40.48%) was the most common organism isolated in patients with nosocomial catheter related infections as well as in patients with nosocomial noncatheter related infections. Also, E. coli was the most common organism isolated in patients with complicated (57.03%) and uncomplicated UTI (55.17%). These findings suggest that, E. coli is the principal pathogen of UTIs. E. coli is a normal inhabitant of the gastro-intestinal tract and thus maybe a potential source for the development of UTI.[69]

Stefaniuk E et al.[60] (2016) reported that, *E. coli* remains the most common etiologic agent of community-acquired UTI in Poland, although its role in etiology differs depending on the type of infection (uncomplicated vs. complicated) and the patient's characteristics.

Ghadage DP et al.[64] (2016) reported that, E. coli (41.3%) was the predominant uropathogen isolated followed by Klebsiella spp (18.5%) and Enterococcus spp (12%) which was consistent with the present study. Similar results were observed in other studies also.[69-71]

A multicenter study (ARESC) (2009) on uncomplicated UTIs carried out in nine European countries and Brazil showed that *E. coli* was responsible for 76.7 % of infections, ranging from 68.1 % in Austria to 83.8 % in France.[72] Among Polish isolates included in this study, *E. coli* was responsible for 75.6 %, which is somewhat lower than that revealed in the present investigation.[60]

Another study by Raval R. et al.[63] (2015) also reported that E. coil as the most frequently occurring uropathogen in both nosocomial as well as community-acquired UTI. E. coli were found in the urine of 80% - 90% of patients with acute uncomplicated cystitis and acute uncomplicated pyelonephritis.

In the present study majority of the patients (88.20%) had community acquired infection while 8.40% and 3.40% of the patients had catheter related nosocomial infection and non catheter nosocomial infection respectively. Gould CV et al. reported that, bacteria develop in at least 10 to 15 percent of hospitalized patients with indwelling urethral catheters.[47,48] Factors associated with an increased risk of catheter associated urinary tract infection include, prolonged catheterization,

severe underlying illness, disconnection of the catheter and drainage tube and lack of systemic antimicrobial therapy.[48]

Overall, this study highlights the clinical presentation, risk factors, etiological agents in complicated and uncomplicated urinary tract infections. This study shows that E. coli are the principal pathogen of UTIs. Regular screening should be done for the presence of symptomatic or asymptomatic bacteriuria in community practice and specific guidelines should be issued for testing antimicrobial susceptibility.

CONCLUSION

Based on the findings of this study it may be concluded that, men are also at high risk of developing UTI. The most common clinical presentations of UTI are fever with chills, lower abdominal pain, burning micturation and reduced urine output. Other uncommon presentations include vomiting, hematuria, increased frequency of urination and dysuria while few patients with UTI may be asymptomatic. Type 2 diabetes mellitus, chronic kidney disease, HUN, renal calculi and begign prostate hyperplasia are the important risk factors of UTI. The other least common risk factors include malignancy, chronic liver disease, RVD, urethral stricture, neurogenic bladder while pregnancy and LSCS in women.

Still E. coli is the predominant agent in complicated and uncomplicated UTIs.

SUMMARY

Urinary tract infections encompasses a wide array of infections, accounting for a vast number of community as well as hospital acquired infections in developing countries. This study was undertaken to evaluate the changing clinical presentations and risk factors of urinary tract infections and the etiological agents in complicated and uncomplicated urinary tract infections.

This one year cross sectional study was comprised of 500 patients with signs and symptoms of urinary tract infection and/or with urinary tract infection confirmed by urine microscopy in the admitted in the Department of Medicine and Nephrology, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi. The important findings of the study are summarized as below.

- 59.00% of the patients were males while 41.00% of the patients were females and male female ratio was 1.43:1.

- The most common age group was 51 to 60 years comprised of 25.40% of the patients and the mean age was 53.60 ±17.55 years.

- Majority of the patients (76.80%) had complicated type of UTI while 23.20% of the patients had uncomplicated UTI.

- Most of the patients had fever with chills (65.60%), followed by lower abdominal pain (47.00%), burning and micturation (22.40%), reduced urine output (20.60%), vomiting (15.60%), hematuria and increased frequency of urination (8.20%) each, asymptomatic (2.80%) and dysuria (2.60%).

- The most common clinical presentation was fever with chills in patients with complicated UTI (62.92%) and in patients with uncomplicated UTI (75%).

- Most of the patients had diabetes mellitus (72.20%) followed by chronic kidney disease (35.58%),

- Urine culture revealed E. coli as the most common organism (56.40%), followed by Klebsiella (13%).

- Imaging findings were normal in 33.20% of the patients. In those with abnormal findings, obstruction was noted in 32% of the patients, renal parenchymal changes in 13.20%, cystitis and pyelonephritis in 10.4% each and PCKD in 0.8% of the patients.

- Majority of the patients (88.20%) had community acquired infection while 8.40% and 3.40% of the patients had catheter related nosocomial infection and non catheter nosocomial infection respectively.

- E. coli (40.48%) was the most common organism isolated in patients with nosocomial catheter related infections. Also E. coli (35.29%) was the most common organism isolated in patients with catheter related nosocomial infections as well as non catheter related nosocomial infections. Furthermore, E. coli was the most common organism isolated in patients with complicated (57.03%) and uncomplicated UTI (55.17%).

- Cystitis and pyelonephritis (15.29% each) were the most common diagnosis among the patients without obstruction while HUN (45%) was the most common diagnosis among the patients without obstruction.

- The most common risk factor was type 2 diabetes mellitus (40%) followed by CKD (19.2%) and HUN (14.60%).

The present study showed that, men are also at high risk of developing UTI. The most common clinical presentations of UTI are fever with chills. Type 2 diabetes mellitus, is the important risk factors of UTI. E. coli is the predominant causative agent in all the UTIs as well as complicated and uncomplicated UTIs.

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ANNEXURE I – CONSENT FORM

Title of research study: **CLINICO-MICROBIAL ASSESSMENT OF URINARY TRACT INFECTIONS IN A TERTIARY CARE HOSPITAL.**

Principal Investigator:
Dr.** **** *******
Post Graduate Student
Department of General Medicine
Jawaharlal Nehru Medical College.
Belagavi – 590 010

Guide:
Dr. ** *******
Professor
Department of General Medicine
Jawaharlal Nehru Medical College.
Belagavi – 590 010

Introduction and Purpose

Urinary tract infections are some of the most common infections in both community and hospital settings, it is estimated that 150 million people were infected with UTA per annum worldwide. Prompt identification of clinical complications as well as precipitating factors of urinary tract infections is extremely important in diagnosis and treatment of this condition. Early recognition of UTI enables us to distinguish between complicated and uncomplicated urinary tract infections and hence reduces the unnecessary use of drugs causing resistance. Therefore urgent need to develop new approaches is required.

Procedure

If you agree to be a 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 and urine samples for necessary investigations.

Risk and benefits

There are no risk factors in the study. The benefits of the study are early detection of microorganisms, proper management by decreasing the excess usage of antibiotics and decreasing the resistance towards the antibiotics, preventing from complicated urinary tract infections and you will be part of this study which is going to be useful to others in the future.

Withdrawal

Participation in this study is purely voluntary. You may decide to participate or not if you don not wish to participate in this study you will not be deprived of the benefits to which you are entitled.

Privacy confidentiality

All information collected about you 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 this study will 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. ** ***** *******
Investigator
PG in General Medicine,
Jawaharlal Nehru Medical College,
Belagavi
**** *****

2. Dr. *** ********
Professor
Dept.of General Medicine
Jawaharlal Nehru Medical College,
Belagavi
**** *****

If you have any questions about rights as a research participant you can contact:

3. Dr. *** *******
Professor of Pathology & Chairman
Jawaharlal Nehru Medical College,
Institutional Ethics Committee on
Human Research Subject
***** *****

ANNEXURE II – PROFORMA

Name:

In Patient Number:

Age/Sex:

Occupation:

History

Past History

Physical examination

Pulse :

Blood Pressure:

Systemic Examination

Respiratory system:

Cardiovascular system:

Per abdomen:

Central nervous system:

Investigations

Complete blood count:

MR:

Urine Routine:

Urine Microscopy:

Urine for culture

Imaging:

Diagnosis

ANNEXURE III – KEY TO MASTER CHART

/min	-	Per minute
+	-	Present
A	-	Absent
AB	-	Asymptomatic bacteruria
BP	-	Blood pressure
BPH	-	Benign prostate hyperplasia
C	-	Complicated
C. Rosae	-	Citrobacter Rosae
CA	-	Community acquired
Citr. Fr. C.	-	Citrobacter freundi
Citr. Spp.	-	Citrobacter species
CKD	-	Chronic kidney disease
CLD	-	Chronic liver disease
cr	-	Crepitations
cumm	-	Cubic millimeter
CVA	-	Cerebrovascular accident
CYS	-	Cystitis
D	-	Distended
dL	-	Deciliter
dr	-	Drowsiness
E.coli	-	Escherichia coli
En. Aero	-	Enterobacter Aerogens

En. clo.	-	Enterobacter cloacae
En. Fec.	-	Enterobacter fecalis
En. spp.	-	Enterobacter species
Et. Fecl.	-	Enterococcus Fecalis
Et. Fecm.	-	Enterococcus faecium
Et. Galli	-	Eneterococcus Gallinarium
Et. spp.	-	Enteroccus species
f	-	Female
GE	-	Gastroenteritis
Gr	-	Grade
HMP	-	Hemiplegia
HUN	-	Hydroureteronephrosis
Imm	-	Immunocompromised state
K. pneu.	-	Klebsiella Pneumonia
K.Oxy	-	Klebsiella oxytoca
Ky. Ascor.	-	Kluyvera Ascorbata
LRTI	-	Lower respiratory tract infection
LSCS	-	Lower segment caesarean section
m	-	Male
M. Morg.	-	Morganella Morganii
Malig	-	Malignancy
mg	-	Milligram
mm Hg	-	Millimeter of mercury
MODS	-	Multiple organ dysfunction syndrome
N	-	Normal

NB	-	Neurogenic bladder
NC	-	Nosocomial – Catheter related
NNC	-	Nosocomial noncatheter
OBS	-	Obstruction
p	-	Present
P. Aer.	-	Pseudomonas aerugonisa
P. Mir.	-	Proteus Mirabilis
P. Relig	-	Providencia religion
P. Rott.	-	Providentia Rottigera
P. Vulg	-	Proteus vulgaris
PCKD	-	Polycystic kidney disease
PL	-	Plenty
PLN	-	Pyelonephritis
Ps.	-	Pseudomonas
RBS	-	Random blood sugar
RC	-	Renal calculi
re-ma	-	Renal mass
RPC	-	Renal parenchymal changes
RT	-	Right
RVD	-	Retroviral disease
S. Aur.	-	Staphylococcus Aureus
SB	-	Symptomatic bacteruria
Ser.	-	Seratia
St. Pneu.	-	Streptococcus Pneumonia
Staph	-	Staphylococcus

T	-	Tenderness
T2DM	-	Type 2 diabetes mellitus
UC	-	Uncomplicated
US	-	Urethral stricture
UTI	-	Urinary tract infection
WBC	-	White blood count
Y. Ent.	-	Yersinia Enterocolitica group

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																		BP (mm Hg)								Urine microscopy										
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction				
1	743030	46	m	P	P	P	P	A	A	P	A	A	A	A	A	86	94	60	N	N	N	N	11.4	2.9	2+	6	PL	E.coli	CA	-	PLN	PLN	-	C
2	773610	23	f	A	A	A	A	A	A	A	A	P	A	A	A	80	110	66	N	N	N	N	7.7	1.2	Tr	NIL	PL	E.coli	CA	-	N	AB	-	UC
3	733717	21	f	P	A	A	A	A	A	A	A	A	A	A	A	76	110	70	N	N	N	N	9	0.7	Tr	NIL	10	E.coli	NC	-	N	Post LSCS with UTI	LSCS	C
4	719957	63	f	A	P	A	P	A	A	P	A	A	A	A	A	68	130	80	N	N	N	N	10.4	1.8	Tr	2	19	E.coli	CA	-	PLN	PLN	-	UC
5	738002	58	m	P	A	A	A	A	P	A	A	A	A	A	A	80	140	80	N	N	N	N	12	1.2	Tr	NIL	2	E.coli	CA	-	N	UTI with SB	-	UC
6	744325	65	m	P	A	A	A	A	P	A	A	A	A	A	A	73	120	80	N	N	N	N	9	1.5	Tr	NIL	12	P. Vulg.	CA	-	CYS	Cystitis	-	UC
7	754568	25	f	P	A	A	A	A	A	A	A	A	A	A	A	64	100	70	N	N	N	N	7	0.8	Tr	NIL	14	K.Pneu.	CA	-	N	UTI in pregnancy	Pregnancy	C
8	747524	24	f	P	A	A	A	A	A	P	A	A	P	A	P	70	110	80	N	N	N	N	12	1.2	Tr	NIL	16	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	UC
9	760798	29	m	P	P	A	A	A	A	P	A	A	A	A	A	80	120	70	N	N	N	N	20	1.5	Tr	NIL	18	E.coli	CA	-	CYS	Cystitis	-	UC
10	754366	30	f	P	P	A	A	A	A	A	A	A	A	A	A	80	120	80	N	N	N	N	12	1.2	Tr	4	14	E.coli	CA	-	N	UTI with SB	-	UC
11	803862	38	m	P	A	A	A	A	A	A	A	A	A	A	P	72	130	80	N	N	N	N	24	0.8	1+	4	8	Citr. Fr.c	CA	-	N	UTI with RVD	Imm RVD	C
12	805580	42	f	P	P	A	A	A	P	A	P	A	A	A	A	82	140	80	N	N	N	N	13.4	6.4	-	5	141	K.Pneu.	CA	-	CYS	Cystitis	-	UC
13	766965	21	f	P	A	P	A	A	A	A	A	A	A	A	A	90	120	80	N	N	N	N	14.2	1	Tr	NIL	14	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
14	804077	64	m	P	A	P	A	A	A	A	A	A	P	A	P	80	140	90	N	N	N	N	13	2.5	1+	26	185	E.coli	CA	-	N	UTI with CLD with T2DM	Imm T2DM	C
15	767880	60	f	P	P	P	A	A	A	A	A	A	A	A	A	80	120	70	N	N	N	N	15	1.4	-	3	10	Et. Spp.	CA	-	CYS	Cystitis	-	UC
16	796809	50	f	P	A	A	A	A	P	A	A	A	P	A	P	96	110	80	N	N	N	N	28	5.05	3+	28	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
17	729408	70	f	P	P	P	A	A	A	A	A	A	A	A	P	86	110	70	N	N	N	N	22	9.5	2+	20	PL	Et. Spp.	CA	HUN	-	UTI with HUN with malignancy	HUN Imm Malig	C
18	774219	60	f	A	A	A	A	A	P	A	A	A	P	A	P	70	100	60	N	N	N	N	16	2.1	2+	10	8	E.coli	CA	-	N	UTI with SBwith T2DM	Imm T2DM	C
19	758059	50	f	A	A	A	A	A	A	P	A	A	P	A	P	80	160	90	N	N	T	N	13	3	3+	PL	20	Citr. Fr.c	CA	-	N	UTI with T2DM	Imm T2DM	C
20	763524	70	m	P	A	A	A	A	P	A	A	A	A	A	A	76	140	80	N	N	N	N	17.1	1.5	-	2	10	E.coli	CA	BPH	-	UTI with BPH	BPH	C
21	717909	54	f	P	A	A	A	A	A	A	A	A	P	P	P	110	140	90	N	N	N	N	19.5	10	3+	10	20	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
22	811897	50	m	P	A	A	A	A	A	A	A	A	P	A	P	118	120	70	N	N	N	N	19	1.2	1+	5	120	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
23	742582	72	f	P	A	A	A	A	A	A	A	A	P	A	P	80	110	70	N	N	N	N	9.5	0.5	Tr	nIL	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	UC
24	739289	40	m	A	P	A	A	A	A	A	A	A	A	P	P	76	150	80	N	N	T	N	30	4.2	2+	3	10	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
25	718178	50	f	P	P	A	A	A	P	A	P	A	P	A	P	94	130	80	N	N	T	N	15	4.7	2+	PL	PL	Et. Spp.	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
26	733262	18	f	P	P	A	A	A	A	A	A	A	A	P	P	100	180	100	N	N	N	N	7.4	10.2	2+	8	PL	E.coli	CA	-	PLN	PLN with CKD	Imm CKD	C
27	746034	19	m	P	P	A	A	A	A	A	P	A	A	A	A	112	130	80	N	N	N	N	10.4	1.9	2+	8	10	E.coli	CA	-	N	UTI with SB	-	C
28	772819	64	m	A	A	A	A	A	P	A	A	A	A	A	P	92	140	80	N	N	N	N	23	3.6	1+	2	14	E.coli	CA	-	N	AB with RVD	Imm RVD	C
29	742425	65	f	A	P	P	A	A	A	A	A	A	P	P	P	102	180	100	N	N	N	N	12	1.8	3+	4	PL	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
30	728582	52	f	P	P	A	P	A	A	A	A	A	P	A	P	84	120	70	N	N	T	N	12	4.2	2+	6	PL	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
31	760789	60	f	A	P	A	A	A	A	A	A	A	A	A	A	76	120	84	cr	N	N	N	84	0.7	-	NIL	8	E.coli	CA	-	CYS	Cystitis	-	UC
32	794507	18	m	P	A	A	A	A	A	A	A	A	A	A	P	80	120	70	N	N	N	N	13	7.1	2+	2	PL	En. Spp.	CA	NB	-	UTI with NB	NB	C
33	725690	61	m	P	P	A	A	A	P	A	A	A	P	P	P	110	170	90	N	N	N	N	24	7.4	1+	PL	5	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
34	736924	20	f	A	A	P	A	A	P	A	A	A	A	A	A	80	110	70	N	N	N	N	11.4	1	Tr	NIL	18	E.coli	CA	-	CYS	Cystitis	-	UC
35	781812	57	m	A	P	A	A	A	A	A	P	A	P	P	P	74	130	80	N	N	N	N	13	4.9	3+	4	PL	En. clo.	CA	-	PLN	PLN with T2DM with CKD	Imm T2DM, CKD	C
36	773193	55	m	P	A	A	A	A	P	A	A	A	P	A	P	84	150	86	N	N	N	N	13.2	4.8	2+	3	PL	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
37	733651	85	m	P	A	A	A	A	A	A	A	A	P	A	P	78	140	80	N	N	N	N	10.3	2	-	NIL	PL	P. Aer.	CA	NB	-	UTI with NB with T2DM	Imm T2DM, NB	C
38	761676	25	m	A	P	A	A	A	A	P	A	A	P	A	P	72	110	70	N	N	N	N	15.2	1.2	2+	NIL	12	Ser.	CA	-	N	UTI with T1DM	Imm T2DM	UC
39	724976	55	f	A	P	A	A	A	A	A	P	A	P	A	P	80	110	70	N	N	N	N	14.6	2.66	2+	7	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
40	704923	60	f	P	A	P	A	A	P	A	P	A	P	A	P	78	100	60	N	N	T	N	9	3.4	1+	3	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
41	740344	42	f	P	P	A	A	A	P	A	A	A	P	P	P	90	140	90	N	N	N	N	14.6	6.4	2+	3	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM with CKD	HUN Imm T2DM, CKD	C
42	753707	22	f	A	P	A	A	A	A	A	A	A	A	A	A	76	120	70	N	N	N	N	16.2	1	-	3	12	P. Aer.	CA	-	N	UTI with SB	-	UC
43	810475	60	m	A	P	A	A	A	A	A	A	A	P	P	P	64	220	110	N	N	N	N	9	3.9	2+	2	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM with CKD	HUN Imm T2DM, CKD	C
44	760547	60	m	P	A	A	A	A	P	A	A	A	P	A	P	100	110	70	N	N	N	N	15.6	2.8	2+	3	**Sheets**	E.coli	CA	-	RPC	UTI with acute GE with T2DM	Imm T2DM	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations									Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																		BP (mm Hg)								Urine microscopy											
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction					
45	719585	63	m	A	A	A	A	A	A	A	A	P	P	P	P	84	170	90	N	N	N	N	7.3	6.6	2+	8	28	P. Mir.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
46	766412	57	m	A	A	P	A	P	A	A	A	A	A	P	A	84	130	80	N	N	N	N	12.4	2	1+	PL	15	E.coli	CA	-	PLN	PLN with CKD	Imm CKD	C
47	773204	63	f	A	A	A	A	A	A	A	P	A	A	A	A	104	110	70	N	N	N	N	2.1	5.8	2+	2	18	E.coli	CA	-	CYS	Cystitis	-	C
48	760800	64	m	P	P	A	A	A	A	A	A	A	A	A	A	76	120	70	N	N	N	N	10	1.8	1+	NIL	18	E.coli	CA	-	N	UTI with SB	-	UC
49	794001	42	f	P	A	A	A	A	A	A	A	A	A	P	P	80	110	70	N	N	N	N	3.2	13.2	3+	NIL	12	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
50	791359	56	m	A	A	A	A	P	A	A	A	A	A	P	P	96	100	60	N	N	D	N	14	9	2+	2	14	E.coli	CA	-	RPC	UTI with CLD with CKD	Imm CKD	C
51	691418	65	m	P	A	P	A	A	A	A	P	A	P	A	P	90	130	80	N	N	N	N	21.6	5.4	2+	4	20	E.coli	CA	HUN	PLN	PLN with T2DM	HUN Imm T2DM	C
52	693088	54	m	P	A	P	A	P	A	A	P	A	P	A	P	110	150	90	N	N	N	N	17	5	2+	PL	PL	E.coli	CA	HUN	PLN	PLN with T2DM	HUN Imm T2DM	C
53	699540	42	m	P	A	A	A	A	A	A	A	A	P	A	P	76	140	90	N	N	N	N	14	8	2+	8	PL	En. clo.	CA	HUN	PLN	PLN with T2DM	HUN Imm T2DM	C
54	704927	53	f	P	P	A	A	A	A	A	A	A	P	A	P	84	100	70	N	N	N	N	19	3.5	1+	2	16	K.Pneu.	CA	-	PLN	PLN with T2DM	Imm T2DM	C
55	700037	63	f	P	P	A	A	A	A	A	A	A	P	A	P	78	130	80	N	N	T	N	36	3.3	2+	6	PL	E.coli	CA	HUN	PLN	PLN with T2DM	HUN Imm T2DM	C
56	733262	18	f	P	P	A	A	A	A	A	A	A	A	P	P	70	140	90	cr	N	N	N	7	8	1+	8	PL	E.coli	CA	-	PLN	PLN with CKD	Imm CKD	C
57	697292	42	m	P	A	A	A	A	A	A	P	A	P	A	P	110	130	80	N	N	N	N	11	4.6	2+	10	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
58	735809	65	f	A	A	A	A	A	A	A	P	A	A	A	A	86	120	70	N	N	N	N	15	10	-	22	15	E.coli	CA	-	N	UTI with acute GE	-	C
59	733930	85	m	P	A	P	A	A	A	P	A	A	A	A	A	100	150	70	N	N	N	N	12	1.3	-	NIL	PL	K.Pneu.	CA	HUN	-	UTI with HUN	HUN	C
60	726491	43	m	P	P	A	A	A	A	A	P	A	A	A	A	76	120	80	N	N	N	N	15	8	-	NIL	PL	En. Fec.	CA	-	PLN	PLN	-	C
61	715211	55	m	A	A	A	A	A	A	A	P	A	P	A	P	80	140	90	N	N	N	N	11	6	2+	NIL	10	Et. Spp.	CA	-	CYS	Cystitis with acute GE with T2DM	Imm T2DM	C
62	768181	18	m	A	A	A	A	A	P	A	A	A	A	A	A	76	130	70	N	N	N	N	15	7	-	4	25	P. Aer.	CA	NB	-	UTI with NB	NB	C
63	771070	58	m	P	P	A	A	A	A	A	A	A	A	A	A	88	120	70	N	N	N	N	11	1.2	2+	NIL	PL	E.coli	CA	HUN	-	UTI with HUN	HUN	C
64	734865	56	f	A	A	P	A	A	A	A	A	A	P	A	P	82	140	80	N	N	N	N	7	3.6	2+	3	22	K.Pneu.	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
65	723086	75	m	A	P	P	A	A	A	A	A	A	A	A	A	78	160	90	N	N	N	N	24	2.19	-	2	PL	E.coli	CA	HUN	-	UTI with HUN	HUN	C
66	773097	77	m	P	A	A	A	A	A	A	A	A	A	A	A	82	120	70	N	N	N	N	21	4	-	2	25	E.coli	CA	HUN	-	UTI with HUN	HUN	C
67	724195	73	m	A	A	A	A	A	A	P	A	P	A	P	A	76	130	80	N	N	N	N	28	4	2+	PL	PL	E.coli	CA	-	N	UTI with acute GE with T2DM	Imm T2DM	C
68	743909	54	m	A	A	A	A	A	A	P	A	P	A	P	A	86	150	90	N	N	N	N	13	11	2+	4	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
69	742613	63	m	P	P	P	A	A	A	A	A	A	P	A	P	76	170	90	N	N	N	N	10	2.23	2+	3	PL	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
70	716382	72	m	P	A	A	A	A	A	A	P	A	A	A	P	84	140	84	N	N	N	N	31	2	3+	2	12	E.coli	CA	US	-	UTI with US	US	C
71	721066	62	m	P	A	P	A	A	A	A	A	A	P	P	P	74	160	80	N	N	N	N	12	7	3+	2	PL	K.Pneu.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
72	716839	58	f	P	A	A	A	A	A	A	P	A	A	A	A	64	140	90	N	N	N	N	10	4.6	2+	2	10	E.coli	CA	HUN	-	UTI with HUN	HUN	C
73	714838	54	m	A	A	A	A	A	A	A	A	P	P	P	P	74	180	100	N	N	N	N	17	9	2+	14	PL	P. Mir.	CA	-	RPC	AB with CKD,T2DM	Imm T2DM, CKD	C
74	727515	42	m	A	P	A	A	A	A	A	A	A	A	A	A	80	130	87	N	N	N	N	13	3	-	6	18	E.coli	CA	RC	PLN	PLN with RC	RC	C
75	719808	53	f	P	A	P	A	A	A	A	P	A	P	A	P	74	150	80	N	N	N	N	10	3	-	2	PL	E.coli	NC	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
76	780316	50	m	P	A	A	A	A	A	A	P	A	A	A	A	82	130	80	N	N	N	N	17	16	1+	PL	20	E.coli	CA	-	RPC	UTI with SB	-	UC
77	784479	51	m	P	A	A	A	A	A	A	A	A	P	A	P	76	100	80	N	N	N	N	7	0.7	-	5	10	E.coli	NC	-	N	UTI with CLD with T2DM	Imm T2DM	C
78	723425	66	m	A	P	P	A	P	A	A	A	A	P	P	P	72	120	70	N	N	N	N	9	2.8	2+	PL	8	E.coli	CA	HUN	PLN	PLN with CKD with T2DM	HUN Imm T2DM, CKD	C
79	727868	65	f	A	A	A	A	A	A	A	A	P	A	P	P	76	130	70	N	N	N	N	35	5	1+	6	18	E.coli	NC	Malig	-	AB with Malig with CKD	Imm Malig, CKD	C
80	767897	42	f	A	P	A	A	A	P	A	A	A	P	P	P	100	130	70	N	N	N	N	26	7	2+	10	28	E.coli	NNC	HUN	PLN	PLN with CKD with T2DM	HUN Imm T2DM, CKD	C
81	775057	51	m	P	A	A	A	A	A	A	P	A	P	A	P	110	160	90	N	N	N	N	6.4	0.6	-	5	24	E.coli	CA	-	N	UTI with CLD with T2DM	Imm T2DM	C
82	748371	51	m	P	A	A	A	A	A	A	A	A	A	A	A	78	140	80	N	N	N	N	12	1.2	-	2	8	Et. Spp.	CA	-	CYS	Cystitis	-	UC
83	772968	27	f	P	A	A	A	A	A	A	A	A	A	A	A	76	120	70	N	N	N	N	5	0.5	-	3	14	E.coli	CA	-	N	UTI with acute GE	-	UC
84	763693	25	f	P	P	A	A	A	A	A	A	A	A	A	A	78	120	70	N	N	N	N	10	1	-	NIL	12	E.coli	CA	-	N	UTI with SB	-	UC
85	715052	24	f	P	P	A	A	A	A	P	A	A	A	A	A	78	110	70	N	N	N	N	14	0.7	-	NIL	10	E.coli	CA	US	-	UTI with US	US	C
86	759392	22	m	P	A	A	A	A	A	A	A	A	A	A	A	76	120	70	N	N	N	N	12	1	-	NIL	12	E.coli	CA	-	N	UTI with SB	-	UC
87	748341	66	m	A	A	A	A	A	A	A	A	A	P	P	P	42	100	70	N	N	N	N	14	1	-	NIL	10	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																		BP (mm Hg)						Urine microscopy											
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction				
88	748407	19	f	P	A	P	A	A	A	A	A	A	A	A	A	96	120	80	N	N	N	N	9	1	-	3	20	E.coli	CA	-	N	UTI with SB	-	UC
89	748536	65	f	A	A	P	A	A	A	P	A	A	A	A	P	76	120	70	N	N	N	N	10	1	-	3	12	Et. Spp.	CA	-	CYS	Cystitis	-	UC
90	731387	50	f	A	A	A	A	A	A	P	A	A	P	A	A	72	120	70	N	N	N	N	13	2	1+	NIL	15	E.coli	CA	-	N	UTI with acute GE with T2DM	Imm T2DM	C
91	746815	52	m	P	A	A	A	A	A	P	A	A	A	A	A	66	110	70	N	N	N	N	16	1	-	1	20	E.coli	CA	RC	-	UTI with RC	RC	C
92	742973	20	f	P	A	A	A	A	A	A	A	A	A	A	A	72	112	78	N	N	N	N	5	1	-	NIL	12	K.Pneu.	CA	-	N	UTI in pregnancy	Pregnancy	C
93	757443	45	f	P	P	A	A	A	A	A	A	A	A	A	P	76	120	60	N	N	N	N	16	1.4	-	NIL	14	E.coli	NC	-	N	UTI with CLD	Imm CLD	C
94	762551	24	f	A	A	P	A	A	A	A	A	A	A	A	A	78	114	74	N	N	N	N	11	1	-	6	12	K.Pneu.	CA	-	N	UTI in pregnancy	Pregnancy	C
95	759325	60	f	P	A	P	A	A	A	A	A	A	A	A	A	80	110	70	N	N	N	N	9	1	1+	3	12	K. Oxy	CA	-	CYS	Cystitis	-	UC
96	811464	30	m	P	A	A	A	A	A	A	A	A	A	A	A	72	120	80	N	N	N	N	5	1	1+	4	18	K.Pneu.	CA	-	N	UTI with LRTI	-	UC
97	802224	57	m	A	A	P	A	A	A	A	A	A	A	A	P	70	100	70	N	N	N	N	7	1.4	1+	6	14	E.coli	NC	Malig	-	UTI with Malig.	Imm Malig	C
98	802301	55	f	A	A	P	A	A	A	P	A	A	P	A	P	64	130	70	N	N	N	N	9	0.6	-	6	9	E.coli	CA	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
99	769962	21	m	P	P	P	A	A	A	A	A	A	A	A	A	88	120	70	N	N	N	N	14	1.5	-	3	30	Et. Spp.	CA	RC	-	UTI with RC	RC	C
100	802315	54	f	P	A	P	A	A	A	A	A	A	P	A	P	78	120	70	N	N	N	N	14	2	1+	NIL	10	K.Pneu.	CA	-	N	UTI with SBwith T2DM	Imm T2DM	C
101	773021	45	m	A	P	A	A	A	A	A	A	A	A	A	A	74	130	80	N	N	N	N	13	3	1+	6	15	Citr. Fr.c	CA	RC	-	UTI with RC	RC	C
102	775814	58	f	P	P	P	A	A	A	A	A	A	A	A	A	76	120	70	N	N	T	N	17	1	1+	4	10	E.coli	CA	RC	-	UTI with RC	RC	C
103	743030	46	m	P	P	A	A	A	P	A	P	A	A	A	A	100	100	70	N	N	N	N	26	4	2+	12	PL	E.coli	CA	-	PLN	PLN	-	C
104	722236	55	f	P	A	A	A	A	A	A	A	A	P	A	P	86	120	80	N	N	N	N	24	2	1+	NIL	14	K.Pneu.	CA	-	N	UTI with SBwith T2DM	Imm T2DM	C
105	7E+06	26	f	A	A	A	A	A	A	A	P	A	A	A	A	74	90	60	N	N	N	N	22	3	2+	12	PL	E.coli	CA	-	N	UTI with MODS	-	UC
106	726410	46	m	P	A	A	A	A	A	P	A	A	A	A	P	80	140	90	N	N	N	N	25	5	2+	PL	PL	E.coli	CA	-	PLN	PLN	-	C
107	754582	70	m	P	A	P	A	A	A	A	A	A	A	A	A	76	110	70	N	N	N	N	10	2	2+	8	12	E.coli	CA	RC	-	UTI with RC	RC	C
108	764462	52	m	A	A	A	A	A	A	A	P	A	P	P	P	72	170	90	N	N	N	N	13	11	2+	10	6	P. Mir.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
109	736734	20	f	P	P	A	A	A	A	A	A	A	A	A	A	100	120	70	N	N	T	N	17	1	1+	2	14	E.coli	NNC	RC	-	UTI with RC	RC	C
110	761907	18	f	P	P	P	A	A	A	A	A	A	A	A	P	80	110	70	N	N	N	N	12	1	1+	NIL	15	Citr. Fr.c	CA	-	N	UTI with SB	-	UC
111	760052	35	f	A	P	A	A	A	A	A	A	A	A	A	A	90	120	76	N	N	N	N	22	1	-	NIL	26	E.coli	CA	-	CYS	Cystitis	-	UC
112	762378	32	f	P	P	A	A	A	A	A	A	A	A	A	A	74	112	80	N	N	T	N	14	1.4	-	NIL	18	E.coli	CA	-	CYS	Cystitis	-	UC
113	778627	54	m	A	P	A	A	A	A	A	A	A	P	A	P	80	110	70	N	N	T	N	16	5	2+	3	PL	Citr. Fr.c	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
114	771017	65	m	P	P	P	A	A	P	A	A	A	A	A	A	100	110	70	N	N	T	N	17	2	-	NIL	PL	E.coli	CA	-	PLN	PLN	-	C
115	757763	60	f	A	P	A	A	A	P	A	A	A	A	A	A	76	140	90	N	N	N	N	15	1	1+	NIL	18	K.Pneu.	CA	RC	-	UTI with RC	RC	C
116	744893	76	f	P	A	A	A	A	A	P	A	A	A	A	P	70	100	70	N	N	N	N	9	5	1+	8	PL	E.coli	NC	Malig	-	UTI with Malig.	Imm Malig	C
117	712271	76	f	A	P	A	A	P	A	A	A	A	P	A	P	64	130	80	N	N	N	N	12	4	2+	8	PL	E.coli	CA	HUN	-	UTI with HUN with malignancy, T2DM	HUN Imm Malig, T2DM	C
118	770695	64	m	P	A	A	A	A	A	A	A	A	A	A	P	72	96	60	N	N	N	N	28	4	2+	5	8	E.coli	CA	-	N	UTI with RVD	Imm RVD	C
119	738452	28	f	A	P	A	A	A	P	A	A	A	A	A	A	80	100	70	N	N	N	N	18	2	1+	PL	5	Citr. Fr.c	CA	RC	-	UTI with RC	RC	C
120	761000	30	f	A	P	P	A	A	A	A	A	A	A	A	A	82	110	70	N	N	N	N	12	1	1+	NIL	24	P. Aer.	CA	-	N	UTI in pregnancy	Pregnancy	C
121	729590	25	f	A	P	A	A	P	A	A	A	A	A	A	A	76	120	70	N	N	N	N	7	2	1+	12	12	E.coli	CA	RC	-	UTI with RC	RC	C
122	703814	38	m	P	A	A	A	A	A	A	A	A	A	A	A	76	130	80	N	N	N	N	9	0.74	Tr	NIL	30	E.coli	CA	-	CYS	Cystitis	-	UC
123	790042	55	m	P	A	A	A	A	A	A	A	A	P	P	P	72	120	80	cr	N	N	N	5	4	2+	5	14	K.Pneu.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
124	781488	52	m	P	A	A	A	A	A	A	A	A	P	P	P	90	200	90	N	N	N	N	13	12	1+	10	6	P. Mir.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
125	796553	56	f	A	P	A	A	A	A	A	A	A	A	A	A	80	110	70	N	N	N	N	17	7	1+	NIL	17	E.coli	CA	-	CYS	Cystitis	-	C
126	789836	57	m	P	P	A	A	A	A	A	A	A	P	A	P	90	120	80	N	N	T	N	28	2	1+	2	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
127	796231	70	m	P	P	A	A	A	P	A	A	A	P	A	P	76	140	90	N	N	T	N	10	4	1+	2	16	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	C
128	728587	26	f	A	A	P	A	A	A	A	A	A	A	P	A	94	110	70	N	N	N	N	14.9	5.2	2+	NIL	10	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
129	783125	52	m	P	A	A	A	A	A	A	A	A	P	P	P	82	130	90	N	N	N	N	31	10	3+	NIL	8	P. Mir.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
130	790042	67	m	A	A	A	A	A	A	A	A	P	P	A	P	82	170	80	N	N	N	N	15	6	2+	NIL	16	E.coli	CA	-	N	AB with T2DM	Imm T2DM	C

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Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																		BP (mm Hg)							Urine microscopy											
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction				
131	734403	70	m	A	A	P	A	A	A	A	A	A	P	A	P	104	130	70	cr	N	N	N	20	3.4	2+	2	PL	P. Aer.	CA	-	RPC	UTI with SBwith T2DM	Imm T2DM	C
132	787017	75	m	A	P	A	A	A	P	A	P	A	P	A	P	80	120	70	N	N	N	N	15	4	2+	NIL	PL	E.coli	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
133	720006	60	m	A	P	A	A	A	P	A	A	A	A	A	A	84	190	110	N	N	N	N	12	3.4	3+	PL	PL	E.coli	CA	-	PLN	PLN	-	C
134	726392	63	m	P	P	A	A	A	P	A	A	A	P	A	A	74	90	60	N	N	N	N	45	5	2+	PL	PL	E.coli	CA	-	RPC	UTI with T2DM	Imm T2DM	C
135	735870	56	f	P	P	A	A	A	P	A	A	A	A	A	P	80	130	70	N	N	N	N	11	1	2+	3	12	Et. Fecl	NC	-	N	UTI with CLD	Imm CLD	C
136	716338	48	m	P	A	P	A	A	P	A	A	A	A	P	A	82	140	90	N	N	N	N	17	4	2+	2	12	En. clo.	CA	-	RPC	UTI with CKD	Imm CKD	C
137	768038	80	m	A	A	A	A	A	A	A	P	A	A	A	A	80	130	70	N	N	N	HMP	12.7	7	2+	2	18	E.coli	NC	-	N	UTI with CVA	-	C
138	787352	86	m	A	P	A	A	A	A	A	P	A	P	P	P	90	100	60	N	N	N	N	11.3	6	2+	10	12	E.coli	CA	HUN	-	UTI with CKD with T2DM	HUN Imm T2DM, CKD	C
139	786899	66	m	P	A	P	A	A	A	A	A	A	P	P	P	96	140	90	N	N	N	N	16	5	1+	8	8	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
140	773164	57	f	P	P	A	A	A	A	P	A	A	A	A	P	80	100	60	N	N	N	N	15	1	-	NIL	13	E.coli	CA	-	N	UTI with CKD	Imm CKD	C
141	727099	60	m	P	A	A	A	A	P	A	A	A	A	P	A	86	90	60	N	N	N	N	16	5	1+	8	PL	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
142	775116	23	m	P	A	A	A	A	P	A	A	A	A	A	A	76	120	80	N	N	N	N	7	1	-	3	14	K.Pneu.	CA	-	CYS	Cystitis	-	UC
143	773610	23	f	P	A	A	A	A	P	A	A	A	A	A	A	74	110	70	N	N	N	N	5	1	-	NIL	12	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
144	745276	24	m	P	P	A	A	A	A	A	A	A	A	A	A	90	100	70	N	N	N	N	24	1	-	NIL	24	E.coli	CA	RC	-	UTI with RC	RC	C
145	745455	21	m	P	A	P	A	A	P	A	A	A	A	A	A	86	110	64	N	N	N	N	20	1	-	NIL	PL	E.coli	CA	-	N	UTI with SB	-	UC
146	769852	25	f	P	A	A	A	A	A	A	A	A	A	A	A	80	90	60	N	N	N	N	18	1	-	NIL	PL	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
147	762188	52	m	A	P	A	A	A	A	A	A	A	P	A	P	72	140	90	N	N	N	N	15	4	2+	NIL	PL	K.Pneu.	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
148	773302	19	f	A	A	P	A	A	A	A	A	A	A	A	A	74	120	72	N	N	N	N	18	1	1+	2	18	Et. Spp.	CA	-	CYS	Cystitis	-	UC
149	717260	56	f	P	A	A	A	A	A	A	A	A	P	A	P	110	140	70	N	N	N	dr	11	5	-	NIL	20	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
150	766353	63	m	P	A	A	A	A	A	A	A	A	A	A	A	104	100	60	N	N	N	N	17	2	-	2	22	K. Oxy	CA	BPH	-	UTI with BPH	BPH	C
151	744601	41	f	P	P	P	A	A	A	A	A	A	A	A	A	90	90	60	N	N	N	N	7.4	4	1+	8	PL	P. Vulg.	CA	HUN	-	UTI with HUN	HUN	C
152	773769	22	f	P	P	A	A	A	A	A	A	A	A	A	A	70	100	70	N	N	N	N	9	1	-	1	12	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
153	723728	59	m	P	P	P	A	A	A	A	A	A	P	A	P	80	140	80	N	N	N	N	13	4	1+	4	PL	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
154	739669	55	f	P	A	P	A	A	A	A	A	A	A	A	A	90	110	80	N	N	N	N	20	2	2+	10	15	Citr. Fr.c	CA	-	PCKD	UTI with PCKD	PCKD	C
155	772715	63	m	P	P	A	A	A	A	A	A	A	A	A	A	80	120	70	N	N	N	N	10	1	-	3	12	E.coli	CA	BPH	-	UTI with BPH	BPH	C
156	693088	54	m	P	P	P	A	P	A	A	P	A	P	A	P	90	160	80	N	N	N	N	18	5	2+	PL	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
157	703598	26	f	P	A	P	A	A	A	A	A	A	A	A	A	80	120	70	N	N	N	N	9	1	-	4	14	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
158	751818	65	f	P	P	P	A	P	A	A	A	A	P	A	P	84	120	70	N	N	N	N	11	2	2+	NIL	8	E.coli	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
159	765765	30	m	P	A	A	A	A	A	A	A	A	A	P	P	90	110	70	N	N	N	N	4	2	1+	NIL	20	Et. Spp.	NNC	-	N	UTI with RVD with CKD	Imm CKD, RVD	C
160	753746	65	f	P	A	P	A	A	A	A	A	A	A	A	A	72	130	70	N	N	N	N	6.4	1.5	1+	12	PL	E.coli	CA	-	CYS	Cystitis	-	UC
161	740720	42	f	P	P	A	A	A	A	A	A	A	A	A	A	90	120	70	N	N	N	N	10	1	-	NIL	16	P. Vulg.	CA	-	CYS	Cystitis	-	UC
162	796000	51	m	P	P	A	A	A	A	A	A	A	P	A	P	90	160	90	N	N	N	N	6	0.5	-	5	138	E.coli	CA	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
163	762449	32	m	P	P	A	A	A	A	A	A	A	A	A	A	86	130	80	N	N	N	N	12	1	-	NIL	14	K.Pneu.	CA	RC	-	UTI with RC	RC	C
164	715060	79	f	P	P	A	A	A	P	A	A	A	P	P	P	76	150	70	N	N	N	N	22	6	2+	8	PL	E.coli	CA	-	PLN	PLN with T2DM with CKD	Imm CKD, T2DM	C
165	738089	45	m	A	A	A	A	A	A	A	A	A	A	A	A	80	130	70	N	N	N	HMP	14	4	2+	3	20	En. clo.	NC	-	RPC	UTI with CVA	-	C
166	769530	85	f	P	A	A	A	A	A	A	P	A	P	A	P	76	110	70	N	N	N	N	10	5	2+	3	15	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	C
167	739257	34	m	A	A	P	A	A	A	P	A	A	A	A	A	80	100	68	N	N	N	N	10	1	1+	NIL	PL	K.Pneu.	CA	-	CYS	Cystitis	-	UC
168	760807	22	f	P	A	P	A	A	A	A	A	A	A	A	A	86	110	70	N	N	N	N	7.6	1.4	-	NIL	30	K.Pneu.	CA	-	CYS	Cystitis	-	UC
169	769556	69	m	P	P	P	A	A	A	A	P	A	P	A	P	120	170	80	N	N	T	N	25	5.8	1+	20	PL	E.coli	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
170	766589	54	m	A	A	A	A	A	A	A	P	A	P	A	P	90	130	80	N	N	N	N	19	6	2+	8	PL	Et. Fecl	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
171	742744	60	m	P	P	A	A	A	A	A	A	A	A	P	P	80	120	70	N	N	N	N	10	2	1+	NIL	PL	K.Pneu.	CA	RC	-	UTI with RC with CKD	Renal caculi Imm CKD	C
172	773629	55	m	P	A	A	A	A	A	A	A	A	P	A	P	72	160	100	N	N	N	N	12.3	4	2+	12	PL	En. Spp.	NC	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
173	773097	77	m	P	P	A	A	A	A	P	A	A	A	A	A	112	120	70	cr	N	N	N	44	3	2+	5	PL	E.coli	CA	HUN	-	UTI with HUN	HUN	C

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Serial number	In patient number	Age (Years)	Sex	Clinical presentation									Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																	BP (mm Hg)							Urine microscopy										
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction				
174	759457	53	m	A	A	A	A	A	A	A	P	A	P	P	P	100	140	90	N	N	N	N	11	2.6	2+	NIL	25	P. Rott.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
175	762057	25	f	P	A	P	A	A	A	A	A	A	A	A	A	84	100	80	N	N	N	N	4	1	-	NIL	12	K.Pneu.	CA	-	N	UTI in pregnancy	Pregnancy	C
176	763034	21	f	P	A	A	A	A	A	A	A	A	A	A	A	96	110	80	N	N	N	N	12	1	-	NIL	PL	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
177	761146	62	m	A	A	A	A	A	P	A	A	A	A	P	P	80	150	90	N	N	N	N	18	4	2+	NIL	15	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
178	737848	70	m	A	P	A	A	A	A	A	A	A	P	A	P	76	130	70	N	N	N	N	11	3	2+	NIL	14	S. Aur.	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
179	749611	22	f	P	A	P	A	A	A	A	A	A	A	A	A	90	100	70	N	N	N	N	14	1	1+	NIL	14	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
180	764434	35	f	P	A	A	A	A	P	A	A	A	A	A	A	80	100	70	N	N	N	N	8	1	-	NIL	12	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
181	766422	48	f	P	A	A	A	A	A	A	A	A	A	A	A	70	110	70	N	N	N	N	15	1	-	NIL	14	Citr. Fr.c	CA	-	CYS	Cystitis	-	UC
182	775063	40	m	P	A	A	A	A	A	P	A	A	A	A	A	80	130	70	N	N	N	N	17	1	-	2	12	E.coli	CA	-	CYS	Cystitis	-	UC
183	774528	50	m	P	P	A	A	A	A	A	A	A	P	A	P	80	110	70	N	N	N	N	21.5	4	1+	NIL	14	Et. Spp.	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
184	762056	18	m	P	P	A	A	A	A	A	A	A	A	A	A	80	100	70	N	N	N	N	16	1.5	-	2	14	K.Pneu.	CA	RC	-	UTI with RC	RC	C
185	694596	55	m	P	P	A	A	A	A	A	A	A	P	A	P	90	80	60	N	N	N	N	4	4	1+	4	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
186	738982	70	m	P	A	A	A	A	A	A	A	A	A	A	A	76	120	70	N	N	N	N	7	2	1+	NIL	16	Et. Spp.	CA	BPH	-	UTI with BPH	BPH	C
187	745698	72	m	A	P	P	A	A	A	A	A	A	P	A	P	80	120	70	N	N	N	N	15	2	1+	2	12	E.coli	CA	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
188	777541	52	m	P	P	A	A	A	P	A	P	A	A	A	A	78	140	80	N	N	N	N	11	10	2+	3	PL	E.coli	CA	-	N	UTI with SB	-	UC
189	793948	78	m	P	A	A	A	A	A	A	A	A	P	A	P	82	140	90	N	N	N	N	22	3	1+	6	PL	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	C
190	802423	75	m	P	A	A	A	A	A	A	P	A	A	A	A	110	130	80	N	N	N	N	14	9	2+	NIL	PL	E.coli	CA	-	N	UTI with SB	-	UC
191	737262	40	f	A	P	P	A	A	A	A	A	A	A	A	A	78	120	70	N	N	N	N	14	1	-	1	14	Et. Spp.	CA	-	N	UTI with SB	-	C
192	797962	70	m	P	A	A	A	A	P	A	P	A	P	P	P	70	130	80	N	N	N	N	26	4	2+	6	189	E.coli	CA	-	N	UTI with CKD with T2DM	Imm T2DM, CKD	C
193	805542	57	m	P	P	A	A	A	A	A	A	A	P	P	P	90	190	100	N	N	N	N	7	4	1+	NIL	PL	En. clo.	CA	-	CYS	Cystitis with CKD with T2DM	Imm T2DM, CKD	C
194	743033	20	f	A	P	A	A	A	A	A	A	A	A	A	A	80	120	80	N	N	N	N	18	1	-	NIL	8	Et. Spp.	CA	-	CYS	Cystitis	-	UC
195	769190	21	m	A	A	A	A	A	A	A	A	P	A	P	P	70	130	70	N	N	N	N	8	10	2+	3	PL	E.coli	CA	-	N	AB with CKD	Imm CKD	C
196	806772	63	m	P	A	A	A	A	A	A	A	A	P	P	P	100	110	80	N	N	N	HMP	16	2	4+	PL	PL	K. Oxy	NC	-	N	UTI with CVA with CKD with T2DM	Imm T2DM, CKD	C
197	809651	63	m	A	A	A	A	A	A	A	A	P	P	A	P	120	70	40	N	N	N	HMP	14	2	1+	PL	PL	K. Oxy	CA	-	N	AB with CVA with T2DM	Imm T2DM	C
198	742876	90	m	P	A	A	A	A	A	A	A	A	A	A	A	80	140	80	N	N	N	HMP	19	1.5	1+	2	14	E.coli	NC	-	N	UTI with CVA	-	C
199	785034	62	m	P	P	A	A	A	A	A	P	A	A	A	A	74	130	90	N	N	N	N	24	2	3+	10	PL	E.coli	CA	-	PLN	PLN	-	C
200	802320	85	m	P	A	P	A	A	A	A	A	A	P	A	P	78	110	70	N	N	N	N	11	2	2+	2	20	K.Pneu.	CA	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
201	802276	57	m	P	A	P	A	A	A	A	A	A	P	A	P	80	110	70	N	N	N	N	8.3	3	1+	PL	10	Et. Spp.	CA	-	N	UTI with T2DM	Imm T2DM	C
202	759761	53	f	A	A	A	A	A	P	A	P	A	P	A	P	90	140	90	N	N	N	N	26	3	2+	8	14	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	C
203	767980	74	m	P	A	A	A	A	A	A	P	A	A	A	A	104	90	6	N	N	N	N	10	7	2+	PL	PL	E.coli	CA	HUN	-	UTI with HUN	HUN	C
204	814229	53	f	A	P	A	A	A	A	A	A	A	P	A	P	86	110	70	N	N	N	N	8	1	1+	2	PL	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	UC
205	814204	68	f	P	A	A	A	A	A	A	A	A	A	A	A	100	110	70	N	N	N	N	10.5	0.5	1+	NIL	20	E.coli	CA	-	CYS	Cystitis	-	UC
206	813815	34	f	P	A	P	A	A	A	A	A	A	A	A	A	76	110	70	N	N	N	N	4	1	-	NIL	20	E.coli	CA	-	N	UTI with SB	-	UC
207	729924	50	m	P	A	A	A	A	A	A	A	A	A	A	A	76	120	80	N	N	N	N	12	1	1+	NIL	PL	E.coli	CA	-	CYS	Cystitis	-	UC
208	754045	70	f	P	A	A	A	A	P	A	P	A	P	P	P	120	90	50	N	N	N	N	18	7	1+	8	PL	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
209	791359	56	m	P	P	A	A	A	P	A	A	A	A	P	P	86	120	70	N	N	N	N	7	2	2+	2	14	E.coli	CA	-	RPC	UTI with CLD with CKD	Imm CKD	C
210	705011	65	m	P	P	P	A	A	A	A	A	A	P	A	P	80	160	90	N	N	N	N	15	5	3+	NIL	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
211	739962	60	f	P	A	A	A	A	A	A	A	A	A	A	A	82	120	70	N	N	N	N	9	1	1+	2	18	Et. Spp.	CA	-	N	UTI with SB	-	UC
212	740069	74	m	A	A	A	A	A	A	P	A	A	P	A	P	76	124	70	N	N	N	N	7	1	1+	2	14	Et. Spp.	CA	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
213	798879	48	m	A	A	A	A	A	A	P	A	A	A	A	A	90	120	70	N	N	N	N	12	1	1+	138	28	S. Aur.	CA	US	-	UTI with US	US	C
214	699922	80	m	P	A	A	A	A	A	P	A	A	P	A	P	96	100	70	N	N	N	N	6	1	2+	NIL	PL	Et. Fecm.	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
215	769275	68	f	P	A	P	A	A	A	A	A	A	P	P	P	90	90	60	N	N	N	N	10	2	3+	3	PL	Ps.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
216	7E+06	36	m	A	P	A	A	A	A	A	A	A	A	A	P	80	150	80	N	N	N	N	11	1	-	2	10	P. Vulg.	NNC	Malig	-	UTI with Malig.	Imm Malig	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations									Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																		BP (mm Hg)								Urine microscopy											
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction					
217	786576	68	f	A	P	P	A	A	A	A	A	A	P	A	P	90	160	80	N	N	N	N	6	1.48	2+	NIL	PL	E.coli	CA	-	CYS	Cystitis with T2DM	Imm T2DM	UC
218	736033	75	m	A	P	P	A	P	P	A	A	A	A	A	A	96	160	90	N	N	N	N	9	3	1+	2	40	E.coli	CA	RC	-	UTI with RC	RC	C
219	750480	65	m	P	P	A	A	A	A	A	A	A	A	A	A	80	160	90	N	N	N	N	17	5	1+	3	PL	K.Pneu.	CA	RC	-	UTI with RC	RC	C
220	736783	50	f	P	A	A	A	A	A	P	A	A	A	A	A	80	140	90	N	N	N	N	10	1	-	2	12	K.Pneu.	CA	US	-	UTI with US	US	C
221	734235	65	f	P	A	P	A	A	A	A	A	A	A	A	A	80	130	80	N	N	N	N	13	3	1+	3	14	E.coli	CA	-	CYS	Cystitis	-	UC
222	757415	65	m	P	A	A	A	A	A	P	A	A	A	A	A	120	160	90	N	N	N	N	10	6	1+	8	PL	E.coli	CA	RC	-	UTI with RC	RC	C
223	770251	56	m	P	A	A	A	A	A	A	A	A	A	P	P	90	130	80	N	N	N	N	5	6	1+	PL	PL	K.Pneu.	CA	-	RPC	UTI with CKD	Imm CKD	C
224	748433	70	m	P	A	A	A	P	A	A	P	A	A	A	A	90	170	100	cr	N	N	N	18	5	1+	PL	25	E.coli	CA	-	PLN	PLN	-	UC
225	766965	21	f	P	A	A	A	A	A	A	A	A	A	A	A	80	100	70	N	N	N	N	8	1	-	NIL	12	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
226	753630	61	m	P	A	A	A	A	P	A	A	A	P	A	P	74	110	80	N	N	N	N	15	4	1+	3	PL	K.Pneu.	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
227	742744	59	m	A	P	A	A	A	A	A	A	A	P	A	P	68	140	80	N	N	N	N	17	6	1+	NIL	PL	K.Pneu.	CA	-	PLN	PLN with T2DM	Imm T2DM	C
228	734719	59	m	P	A	P	A	A	A	A	A	A	P	A	P	110	140	80	N	N	N	N	14	5	-	3	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
229	721771	21	f	P	P	A	A	A	A	A	A	A	A	A	A	90	110	80	N	N	T	N	9	1	-	NIL	18	E.coli	CA	RC	-	UTI with RC	RC	C
230	703690	51	m	A	P	A	A	A	A	A	A	A	P	A	P	80	130	80	N	N	N	N	12	1	1+	2	PL	E.coli	CA	-	RPC	UTI with T2DM	Imm T2DM	UC
231	767521	62	m	A	A	A	A	A	A	A	A	P	A	P	P	90	110	70	N	N	N	N	21	9	3+	1	PL	K.Pneu.	CA	-	RPC	AB with CKD	Imm CKD	C
232	759749	72	m	P	A	P	A	A	A	A	P	A	P	A	P	80	140	80	cr	N	N	N	15	5	-	2	PL	K.Pneu.	CA	-	N	UTI with T2DM	Imm T2DM	C
233	730756	77	f	A	A	P	A	A	A	A	A	A	P	A	P	76	120	80	N	N	N	N	7	4	-	2	20	Et. Fecl	CA	-	RPC	UTI with T2DM	Imm T2DM	C
234	798383	86	m	A	P	A	A	A	P	A	A	A	A	A	P	110	130	70	N	N	N	N	15	5	2+	2	PL	En. clo.	NNC	HUN	-	UTI with HUN, malignancy	HUN Imm Malig	C
235	764987	60	f	P	P	A	A	A	A	P	A	P	A	A	P	130	150	90	N	N	N	N	22	3	2+	8	PL	Citr. Fr.c	CA	-	PLN	PLN with T2DM	Imm T2DM	C
236	729347	20	f	A	P	A	A	A	A	A	A	A	A	A	A	80	100	70	N	N	N	N	11	1	-	2	22	K.Pneu.	CA	-	N	UTI in pregnancy	Pregnancy	C
237	795583	86	m	A	A	A	A	A	A	P	A	A	A	P	P	90	140	90	N	N	N	N	11	14	3+	PL	PL	P. Relig.	CA	HUN	-	UTI with HUN with CKD	HUN, Imm CKD	C
238	739646	24	f	P	A	A	A	A	A	A	A	A	A	A	A	74	110	80	N	N	N	N	8	1	-	NIL	PL	E.coli	CA	-	N	UTI with SB	-	UC
239	740337	40	m	P	A	P	A	A	A	A	A	A	A	A	A	76	120	80	N	N	N	N	7	1	-	NIL	13	E.coli	CA	-	N	UTI with SB	-	UC
240	783480	30	f	P	P	A	A	A	P	A	A	A	A	A	A	70	110	70	N	N	N	N	15	1	-	NIL	20	K. Oxy	CA	-	CYS	Cystitis	-	UC
241	743823	32	f	A	A	A	A	A	A	A	A	P	A	A	A	80	120	70	N	N	N	N	7	1	-	1	13	K.Pneu.	CA	-	N	AB in pregnany	Pregnancy	C
242	786889	66	m	P	A	P	A	A	A	A	A	A	P	A	P	90	140	90	N	N	N	N	16	6	1+	8	8	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	C
243	787017	75	m	A	A	A	A	A	P	A	P	A	P	A	P	96	140	90	N	N	N	N	14	4	2+	NIL	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
244	787690	76	m	A	P	A	A	A	P	A	A	A	P	A	P	72	110	80	N	N	N	N	22	9	1+	20	10	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
245	795219	46	f	P	P	A	A	A	A	A	A	A	A	P	P	92	140	90	N	N	N	N	18	1	1+	NIL	24	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
246	704923	60	m	P	P	P	A	A	P	P	A	A	P	A	P	78	130	70	N	N	T	N	15	6	1+	2	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
247	781571	80	m	A	A	A	A	A	A	A	P	A	A	P	P	80	110	70	N	N	N	N	29	6	2+	5	PL	En. Aero.	CA	-	N	UTI with CKD	Imm CKD	C
248	756990	67	m	A	A	A	A	A	A	A	A	P	P	P	P	102	120	70	N	N	N	N	13.8	1	2+	5	PL	E.coli	CA	-	RPC	AB with CKD,T2DM	Imm T2DM, CKD	C
249	731721	60	m	A	A	A	A	A	A	A	P	A	A	A	A	70	140	88	N	N	N	N	19	6	3+	PL	8	Staph.	CA	-	N	UTI with SB	-	UC
250	744822	75	f	A	A	A	A	A	P	A	P	A	A	A	A	76	130	70	N	N	N	N	32	4	2+	NIL	26	E.coli	CA	-	N	UTI with acute GE	-	C
251	762857	65	m	A	P	A	A	A	A	A	P	A	A	A	A	100	180	100	N	N	N	N	8	3	2+	PL	15	En. clo.	CA	-	PLN	PLN	-	UC
252	712778	80	m	A	A	A	A	P	A	A	P	A	A	A	A	80	120	70	N	N	N	N	14	9	1+	PL	12	M. Morg.	CA	US	-	UTI with US	US	C
253	718647	65	m	A	P	A	A	A	A	A	P	A	P	P	P	100	210	100	cr	N	T	N	12	3	2+	6	15	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
254	792407	35	m	P	P	A	A	A	A	A	A	A	A	P	P	80	120	70	N	N	N	N	3	1.7	1+	NIL	14	E.coli	CA	-	N	UTI with CKD	Imm CKD	C
255	751818	65	f	P	P	P	A	A	A	P	A	A	P	A	P	76	120	70	N	N	N	N	11	2	1+	NIL	30	E.coli	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
256	797747	47	m	P	A	A	A	A	A	A	P	A	A	A	A	70	100	70	cr	N	N	N	19	18	2+	3	12	K.Pneu.	CA	-	RPC	UTI with SB	-	UC
257	789719	58	f	A	P	A	A	A	P	A	A	A	A	A	A	100	160	100	N	N	N	N	18	4	2+	6	18	E.coli	CA	-	PLN	PLN	-	C
258	742501	24	f	A	P	A	A	A	A	P	A	A	A	A	A	76	120	70	N	N	N	N	7	1	-	NIL	13	C. Rosae	CA	-	N	UTI in pregnancy	Pregnancy	C
259	741670	23	f	A	P	A	A	A	P	A	A	A	A	A	A	80	100	60	N	N	T	N	12	1	Tr	2	23	Et. Spp.	CA	-	N	UTI in pregnancy	Pregnancy	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation									Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																	BP (mm Hg)								Urine microscopy										
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction				
260	742038	51	m	P	A	A	A	A	A	P	A	A	A	P	P	70	120	70	N	N	N	N	14.6	3	Tr	15	PL	E.coli	CA	HUN	-	UTI with HUN with CKD	HUN, Imm CKD	C
261	748345	56	m	A	P	A	A	A	A	P	A	A	A	A	A	76	110	70	N	N	N	N	11	4	Tr	NIL	30	E.coli	CA	-	N	UTI with SB	-	UC
262	740178	19	f	A	P	A	A	A	P	A	A	A	A	A	A	82	120	60	N	N	N	N	11	1.2	-	PL	14	E.coli	CA	RC	-	UTI with RC	RC	C
263	747972	60	m	A	A	A	A	A	P	A	A	A	A	A	A	76	110	70	N	N	N	N	15	10	2+	PL	PL	E.coli	CA	-	N	UTI with SB	-	UC
264	716803	54	f	P	A	P	A	A	A	P	A	A	P	P	P	78	150	70	N	N	N	N	10	3	2+	10	PL	En. clo.	CA	-	PLN	PLN with T2DM with CKD	Imm T2DM, CKD	C
265	769961	60	f	P	P	A	A	A	P	A	A	A	P	A	P	84	130	90	N	N	N	N	21	2	1+	NIL	PL	K.Pneu.	CA	-	N	UTI with T2DM	Imm T2DM	C
266	760498	42	f	A	P	A	A	A	P	A	A	A	P	P	P	110	140	90	N	N	N	N	26	1	2+	NIL	PL	E.coli	CA	-	PLN	PLN with T2DM with CKD	Imm T2DM, CKD	C
267	752735	21	f	P	P	A	A	A	P	A	A	A	P	P	P	100	160	100	N	N	T	N	17	4	1+	NIL	PL	E.coli	CA	-	PLN	PLN with CKD with T2DM	Imm T2DM, CKD	C
268	795351	63	m	A	A	A	A	A	P	A	A	A	P	P	P	88	90	60	N	N	N	HMP	7.6	4	2+	3	6	K. Oxy	NC	-	RPC	UTI with CVA with CKD with T2DM	Imm T2DM, CKD	C
269	795301	65	m	P	A	A	A	A	P	A	A	A	P	P	P	90	110	70	N	N	N	N	13	15	3+	6	30	Ky. Ascor	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
270	796496	68	m	P	P	A	A	A	A	A	A	A	A	A	A	100	120	70	cr	N	N	N	20	1.65	1+	8	16	Citr. Fr.c	CA	-	N	UTI with SB	-	UC
271	786480	76	m	P	P	A	A	A	P	A	A	A	P	A	P	110	90	60	N	N	N	N	13	4	2+	16	PL	Et. Spp.	CA	-	N	UTI with MODS with T2DM	Imm T2DM	C
272	795607	58	m	P	A	P	A	A	A	A	A	A	A	A	P	100	120	70	N	N	N	N	0.8	1	2+	PL	PL	P. Aer.	NNC	Malig	CYS	Cystitis with malignancy	Imm Malig	C
273	761147	67	f	P	A	A	A	A	A	A	A	A	A	A	P	110	130	80	cr	N	N	N	12	1	1+	2	24	En. Spp.	CA	-	N	UTI with LRTI	-	UC
274	793222	79	m	P	P	A	A	A	A	A	A	A	A	A	P	80	100	60	N	N	N	N	14	1	1+	PL	PL	E.coli	NNC	HUN	-	UTI with HUN, Malig.	HUN Imm Malig	C
275	795343	60	f	A	P	A	A	A	A	A	A	A	P	A	P	100	120	70	N	N	N	N	12	1	1+	6	20	En. Spp.	CA	-	N	UTI with T2DM	Imm T2DM	UC
276	758984	41	m	P	P	A	A	A	A	A	A	A	A	A	P	100	90	60	N	N	T	N	10	1	1+	NIL	10	En. clo.	NC	-	N	UTI with CLD	Imm CLD	C
277	756678	45	m	A	P	A	A	A	A	A	A	A	A	A	A	64	120	70	N	N	N	N	9	1	-	6	30	Et. Spp.	CA	RC	-	UTI with RC	RC	C
278	797525	80	f	P	A	P	A	A	A	A	A	A	P	A	P	70	100	70	N	N	N	N	17	3	2+	16	PL	Ky. Ascor	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
279	798138	55	f	A	P	A	A	A	A	A	A	A	P	A	P	80	150	90	N	N	N	N	20	1	1+	12	12	K.Pneu.	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
280	798536	45	m	A	P	A	P	A	A	A	A	A	A	A	A	74	120	70	N	N	N	N	17	1	-	1	1	Citr. Spp.	CA	BPH	-	UTI with BPH	BPH	C
281	801725	50	m	P	P	P	A	A	A	A	A	A	P	A	P	82	110	70	N	N	N	N	11	11	-	4	18	K. Oxy	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
282	801774	36	f	P	A	A	A	A	A	A	A	A	A	A	A	80	130	80	N	N	N	N	8	1	2+	10	3	E.coli	CA	-	CYS	Cystitis	-	UC
283	802285	49	f	P	A	A	A	P	A	A	A	A	A	A	A	74	140	90	N	N	N	N	18	3	2+	PL	PL	Et. Fecl	CA	-	N	UTI with SB	-	UC
284	803207	43	f	A	P	A	A	A	A	A	A	A	A	A	A	72	150	80	N	N	T	N	7.6	1	-	6	16	Et. Fecm.	CA	RC	-	UTI with RC	RC	C
285	803868	35	m	A	P	A	A	A	A	A	A	A	A	A	A	74	130	70	N	N	N	N	5	3	1+	15	26	E.coli	CA	RC	-	UTI with RC	RC	C
286	803878	76	f	P	A	A	A	A	A	A	A	A	P	A	P	80	140	80	N	N	N	N	15	1	1+	6	PL	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	UC
287	804419	50	f	A	P	P	A	A	A	A	A	A	A	A	A	76	120	80	N	N	N	N	6	0.6	1+	4	16	En. Spp.	CA	-	N	UTI with SB	-	UC
288	804083	69	m	P	A	A	A	A	A	A	A	A	P	A	P	84	140	70	N	N	N	HMP	17	1	1+	12	PL	K.Pneu.	NC	-	N	UTI with CVA with T2DM	Imm T2DM	C
289	794325	86	f	P	P	A	A	A	A	A	A	A	P	A	P	90	130	80	N	N	N	HMP	8	1	1+	4	PL	En. Spp.	NC	-	N	UTI with CVA with T2DM	Imm T2DM	C
290	711410	89	f	P	P	P	A	A	A	A	A	A	P	A	P	76	150	90	N	N	N	HMP	16	1	1+	NIL	PL	E.coli	NC	-	N	UTI with CVA with T2DM	Imm T2DM	C
291	712454	55	f	P	A	A	A	A	A	A	A	A	A	A	A	70	130	70	cr	N	N	N	13.6	1	-	Nil	Nil	E.coli	CA	-	N	UTI with LRTI	-	UC
292	714991	55	m	A	P	A	A	A	A	A	P	A	A	A	A	74	170	90	cr	N	N	N	18	0.9	1+	6	PL	Ps.	NC	-	N	UTI with LRTI	-	UC
293	766718	18	m	A	P	A	A	A	A	A	A	A	A	A	A	100	120	70	N	N	T	N	12.4	7.33	1+	8	PL	E.coli	CA	RC	-	UTI with RC	RC	C
294	766516	50	f	A	P	A	A	A	A	A	A	A	A	A	P	90	100	70	N	N	N	N	20	1	2+	2	4	K.Pneu.	NNC	Malig	-	UTI with Malig.	Imm Malig	C
295	694777	64	m	P	P	A	A	A	A	A	A	A	P	A	P	80	110	60	N	N	N	N	17	4	1+	10	PL	En. clo.	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
296	781046	67	m	P	A	P	A	A	P	A	A	A	A	A	A	76	120	70	N	N	N	N	8	1	-	4	8	P. Relig.	CA	BPH	-	UTI with BPH	BPH	C
297	763465	23	f	P	A	P	A	A	A	A	A	A	A	A	A	70	110	70	N	N	N	N	36	1.5	-	30	PL	Et. Galli	CA	-	N	UTI with MODS	-	UC
298	764280	85	f	A	P	P	A	P	A	A	A	A	A	A	P	64	140	80	N	N	N	N	20	1.24	2+	PL	8	E.coli	CA	-	N	UTI with CLD	Imm CLD	C
299	720456	50	m	P	A	A	A	A	A	A	A	A	A	A	P	80	120	60	N	N	N	N	10	1	-	4	8	Et. Fecl	CA	-	N	UTI with LRTI	-	UC
300	696448	54	m	P	P	A	A	A	P	A	A	A	P	A	P	110	100	60	N	N	T	N	16	6	1+	2	18	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
301	720924	78	m	A	P	A	A	A	A	P	A	A	P	A	P	120	90	60	N	N	N	N	15	1	1+	20	10	K.Pneu.	CA	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
302	706614	62	m	P	A	P	A	A	A	A	A	A	A	A	P	76	110	70	cr	N	N	N	7	1.1	1+	2	14	E.coli	CA	HUN	PLN	HUN with PLN	HUN	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation									Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																	BP (mm Hg)							Urine microscopy										
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction			
303	713666	68	f	P	A	P	A	A	A	A	A	A	P	A	P	80	120	70	N	N	N	N	12	1.6	1+	6	22	Et. Fecl	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
304	726510	57	m	A	P	A	A	A	A	A	A	P	A	P	82	130	80	N	N	N	HMP	15	1	1+	8	30	E.coli	NC	-	N	UTI with CVA with T2DM	Imm T2DM	C
305	727318	79	m	P	A	P	A	A	A	A	A	A	P	A	P	70	120	70	N	N	N	N	8	1.56	1+	8	14	E.coli	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
306	756425	18	f	P	A	P	A	A	A	A	A	A	A	A	A	80	100	70	N	N	N	N	9	0.4	-	NIL	Nil	E.coli	CA	-	N	UTI in pregnancy	Pregnancy	C
307	755654	60	m	P	P	A	A	A	A	A	A	A	P	A	P	76	120	70	N	N	N	N	20	0.9	1+	10	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	UC
308	754844	23	f	P	A	P	A	A	A	A	A	A	A	A	A	100	110	80	N	N	N	N	7.9	1.2	-	2	10	E.coli	CA	-	N	UTI with SB	-	UC
309	756649	25	f	P	P	A	A	A	A	P	A	A	A	A	A	106	90	60	N	N	T	N	7.4	0.5	1+	2	26	K. Oxy	CA	-	PLN	PLN	-	UC
310	719886	52	m	P	P	A	A	A	A	A	A	A	P	A	P	104	140	70	N	N	N	N	13	0.94	1+	4	16	Ps.	CA	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
311	718478	65	f	P	P	A	A	A	A	A	A	A	P	A	P	100	120	80	N	N	N	N	19.2	4.7	2+	NIL	PL	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
312	717891	49	f	P	A	P	A	A	P	A	A	A	A	A	A	76	150	90	N	N	N	N	25	1	-	NIL	16	E.coli	CA	-	CYS	Cystitis	-	UC
313	717499	65	m	P	P	P	A	A	A	A	A	A	P	A	P	72	130	80	N	N	N	N	20	2	3+	PL	15	Et. Spp.	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
314	716658	65	f	P	P	A	A	A	A	A	A	A	P	P	P	90	170	70	cr	N	N	N	14.2	7.3	2+	6	38	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
315	715692	65	f	P	A	A	A	A	A	A	A	A	A	A	A	80	130	70	N	N	N	N	10.8	0.4	-	2	22	Et. Fecm.	CA	-	N	UTI with MODS	-	UC
316	720333	72	m	P	A	A	A	A	P	A	P	A	P	P	P	90	160	90	N	N	N	N	16.4	7	1+	2	PL	E.coli	CA	BPH	-	UTI with BPH with CKD with T2DM	BPH Imm T2DM, CKD	C
317	722498	64	f	P	A	A	A	A	A	A	P	A	P	P	P	100	150	90	cr	N	N	N	21	3.7	2+	6	28	K.Pneu.	CA	-	RPC	UTI with CKD with T2DM with MODS	Imm T2DM, CKD	C
318	760336	46	f	P	P	A	A	A	A	A	A	A	A	P	P	74	150	90	N	N	N	N	9	12	2+	8	12	En. clo.	CA	-	RPC	UTI with CKD	Imm CKD	C
319	753072	49	f	A	P	P	A	A	A	P	A	A	P	A	P	76	120	70	N	N	N	N	10	1.9	1+	12	26	K.Pneu.	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
320	765475	56	f	A	P	A	A	A	A	A	P	A	A	A	A	100	140	90	N	N	T	N	3.3	5.6	1+	4	PL	K.Pneu.	CA	RC	-	UTI with RC	RC	C
321	766785	50	m	P	A	A	A	A	A	A	P	A	A	A	P	90	160	90	cr	N	N	N	10	6.1	2+	6	PL	E.coli	CA	-	RPC	UTI with RVD	Imm RVD	C
322	726109	30	f	P	A	A	A	A	A	A	A	A	A	A	A	130	160	90	cr	N	N	N	15	4	3+	12	8	En. Spp.	NC	-	RPC	UTI with MODS	-	UC
323	763815	72	F	P	A	A	A	A	A	A	P	A	P	A	P	92	150	60	N	N	N	N	6.2	3.4	2+	PL	12	Et. Spp.	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
324	766474	67	f	A	A	A	A	A	A	A	A	P	P	P	P	100	160	100	N	N	N	N	14	5.4	2+	16	PL	Et. Spp.	CA	-	RPC	AB with CKD,T2DM	Imm T2DM, CKD	C
325	718645	65	f	A	P	A	A	A	A	A	P	A	P	P	P	110	200	100	N	N	N	N	27	3.4	2+	8	24	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
326	763422	52	m	P	A	A	A	A	P	A	P	A	A	P	P	120	80	60	N	N	N	N	28	10	3+	4	PL	Et. Fecl	CA	-	RPC	UTI with acute GE with CKD	Imm CKD	C
327	725379	62	m	A	P	A	A	A	A	A	A	P	A	P	A	100	110	60	N	N	N	N	14	8	1+	6	8	E.coli	CA	-	RPC	UTI with acute GE with T2DM	Imm T2DM	C
328	766203	64	m	P	A	A	A	A	A	A	A	A	P	P	P	80	80	50	N	N	N	N	13	6.1	2+	8	PL	En. clo.	CA	US	-	UTI with US with CKD with T2DM	US Imm T2DM CKD	C
329	765315	54	f	A	A	A	A	A	A	A	P	A	A	A	A	70	110	70	N	N	N	N	12	2.9	2+	15	PL	E.coli	CA	-	N	UTI with acute GE	-	C
330	729287	65	f	A	P	P	A	P	A	A	A	A	A	A	A	76	120	70	N	N	T	N	13.5	6.6	2+	PL	PL	E.coli	CA	RC	-	UTI with RC	RC	C
331	748219	60	m	A	A	A	P	P	A	P	A	A	A	A	A	90	100	70	N	N	N	N	15	11	2+	PL	22	E.coli	CA	BPH,RC	-	UTI with BPH with RC	RC , BPH	C
332	789631	70	f	P	A	A	A	A	A	A	P	A	A	A	A	110	90	60	N	N	N	N	21.8	4.3	2+	4	30	K.Pneu.	CA	BPH	-	UTI with BPH	BPH	C
333	785490	62	m	P	A	A	A	A	A	A	A	A	A	P	P	84	120	70	N	N	N	N	19	9.54	2+	4	25	E.coli	NNC	-	RPC	UTI with CLD with CKD	Imm CKD, CLD	C
334	744445	47	m	P	A	A	A	A	A	A	A	A	A	P	P	70	100	60	N	N	N	N	23	12	3+	6	PL	E.coli	CA	-	PLN	PLN with CKD	Imm CKD	C
335	796076	38	m	P	P	A	A	A	A	A	A	A	A	A	P	80	100	70	N	N	T	N	15	1.2	-	4	PL	St. Pneu.	NNC	-	N	UTI with CLD	Imm CLD	C
336	770306	70	m	P	P	A	A	A	A	A	A	A	P	A	P	76	120	80	N	N	T	N	17	4	2+	15	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
337	769556	69	m	P	P	P	A	A	A	A	A	A	A	A	A	100	130	70	N	N	T	N	25	4	2+	10	12	E.coli	CA	HUN	-	UTI with HUN	HUN	C
338	768495	60	m	A	P	A	A	P	A	A	A	A	A	P	P	80	120	70	N	N	N	N	13	3	2+	PL	6	E.coli	NC	HUN,RC	-	UTI with HUN with reanl calculi with CKD	RC HUN Imm CKD	C
339	768038	80	m	P	A	A	A	A	A	A	A	A	P	P	P	76	130	80	N	N	N	HMP	14.4	7.09	2+	8	25	E.coli	CA	-	RPC	UTI with CVA with CKD with T2DM	Imm T2DM, CKD	C
340	796198	52	m	P	P	A	A	A	A	A	A	A	A	A	P	90	90	60	N	N	T	N	10	1.1	1+	30	PL	E.coli	NC	-	N	UTI with CLD	Imm CLD	C
341	793916	56	m	A	A	P	A	A	A	A	A	A	P	A	P	82	130	90	N	N	N	N	11.5	0.68	-	NIL	5	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	UC
342	793640	66	f	P	P	A	A	P	A	A	A	A	A	A	A	66	140	90	N	N	N	N	12	1.1	-	NIL	12	Ky. Ascor	CA	-	CYS	Cystitis	-	UC
343	793598	61	f	P	P	A	A	A	A	A	A	A	A	A	A	82	150	80	N	N	N	N	25	2.1	-	NIL	18	E.coli	CA	-	N	UTI with MODS	-	UC
344	774709	45	m	A	P	A	A	P	A	A	A	A	A	A	P	74	100	60	N	N	T	N	3.6	1.01	1+	NIL	PL	K.Pneu.	NNC	-	N	UTI with CLD	Imm CLD	C
345	771500	20	f	P	A	P	A	A	A	A	A	A	A	A	A	60	120	80	N	N	N	N	10.6	0.57	-	60	26	E.coli	CA	-	N	UTI with SB	-	UC

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings				Complicated/uncomplicated UTI
																		BP (mm Hg)						Urine microscopy											
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction	Diagnosis	Risk factors	
346	771363	65	f	P	A	A	A	P	A	A	A	A	P	A	P	72	120	70	N	N	N	N	7.6	0.5	-	5	3	En. Spp.	CA	-	N	UTI with T2DM	Imm T2DM	UC
347	769461	38	m	P	P	A	A	A	A	A	A	A	A	A	P	80	110	70	N	N	N	N	4.7	0.93	-	6	20	K.Pneu.	CA	-	N	UTI with SB	-	UC
348	769082	58	m	P	P	A	A	A	A	A	P	A	P	A	P	100	90	60	N	N	T	N	17	1.08	1+	4	24	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	UC
349	766973	28	f	P	P	P	A	A	A	A	A	A	A	A	A	110	127	70	N	N	T	N	10.6	0.7	-	8	PL	E.coli	CA	-	N	UTI with SB	-	UC
350	762857	65	m	P	P	A	A	P	A	A	A	A	P	A	P	100	120	80	N	N	N	N	7	5.01	2+	PL	3	Et. Spp.	NC	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
351	762857	65	m	P	P	A	A	P	A	A	A	A	P	A	P	110	100	70	N	N	N	N	6.3	4	2+	PL	5	En. clo.	CA	RC	-	UTI with RC with T2DM	RC Imm T2DM	C
352	762237	27	F	P	P	A	A	A	A	A	A	A	A	A	A	80	110	80	N	N	T	N	10	4	2+	PL	4	Et. Fecm.	CA	RC	-	UTI with RC	RC	C
353	772765	68	m	P	A	A	A	A	A	A	A	A	P	A	P	80	130	70	cr	N	N	N	8.8	1.1	-	NIL	Nil	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	UC
354	773033	54	m	P	A	A	A	A	P	A	A	A	A	A	P	74	110	70	cr	N	N	N	33	0.29	1+	6	20	En. Spp.	NC	Malig	-	UTI with Malig.	Imm Malig	C
355	773295	71	f	P	P	A	A	A	A	A	P	A	A	A	P	100	90	70	N	N	T	N	5.3	0.5	1+	16	20	Et. Fecm.	NC	-	N	UTI with CLD	Imm CLD	C
356	772765	68	m	P	A	A	A	A	A	A	A	A	P	A	P	70	130	60	cr	N	N	N	8.8	1.97	-	10	6	E.coli	CA	-	N	UTI with T2DM	Imm T2DM	C
357	775538	76	m	P	A	A	A	A	A	A	A	A	A	A	A	100	140	70	N	N	N	N	7.5	0.67	-	4	10	K.Pneu.	NNC	-	N	UTI with LRTI	-	UC
358	775690	35	m	P	A	A	A	A	P	A	A	A	A	A	A	90	110	70	N	N	N	N	13.3	2.2	-	6	16	Et. Fecm.	CA	-	N	UTI with LRTI	-	UC
359	776163	33	m	P	P	A	A	A	A	A	P	A	A	P	P	110	120	70	N	N	T	N	3.1	9.6	1+	8	20	E.coli	CA	-	N	UTI with CKD	Imm CKD	C
360	792579	39	m	A	P	A	A	A	A	A	A	A	A	A	A	100	140	90	N	N	T	N	15	5.3	1+	40	56	E.coli	CA	RC	-	UTI with RC	RC	C
361	797527	60	m	P	A	A	A	A	A	A	P	A	P	A	P	90	100	70	N	N	N	N	12	4.6	1+	13	207	E.coli	CA	-	N	UTI with T2DM with MODS	Imm T2DM	C
362	797885	51	m	P	P	A	A	A	A	A	A	A	A	A	P	110	140	90	N	N	T	N	11	1.15	1+	12	80	Et. Fecl	NC	-	N	UTI with CLD	Imm CLD	C
363	801061	72	m	A	P	A	A	A	A	A	A	A	A	A	A	102	130	80	N	N	T	N	6.3	2.53	-	8	15	Et. Fecl	CA	HUN	-	UTI with HUN	HUN	C
364	803878	76	m	P	P	A	A	A	A	A	A	A	A	A	A	110	120	80	N	N	T	N	15	0.44	-	10	16	E.coli	CA	BPH	-	UTI with BPH	BPH	C
365	809275	43	m	P	P	A	A	A	A	P	A	A	A	A	P	76	90	60	N	N	T	N	33	4.5	1+	5	7	K.Pneu.	CA	-	N	UTI with CLD	Imm CLD	C
366	816172	70	m	P	A	A	A	A	A	A	A	A	P	A	P	115	100	70	cr	N	N	N	11.2	0.7	1+	4	20	Ky. Ascor	CA	-	N	UTI with T2DM	Imm T2DM	UC
367	811311	77	m	P	P	A	A	A	A	A	A	A	A	A	P	96	130	70	N	N	T	HMP	12	0.6	1+	5	8	K.Pneu.	NC	-	N	UTI with CVAwith CLD	Imm CLD	C
368	811226	78	m	P	A	A	A	A	A	P	A	A	A	A	A	94	140	90	N	N	N	N	18	2.68	-	4	92	P. Relig.	NNC	-	N	UTI with LRTI	-	UC
369	811529	49	f	A	P	A	A	A	A	A	A	A	A	A	A	95	130	70	N	N	N	N	8.4	1.1	-	6	32	E.coli	CA	-	CYS	Cystitis	-	UC
370	811807	35	m	P	P	A	A	A	A	A	A	A	A	A	A	110	130	80	N	N	N	N	17	0.5	1+	2	32	En. clo.	CA	RC	-	UTI with RC	RC	C
371	731751	88	f	P	P	A	A	A	A	A	P	A	A	A	P	100	80	50	N	N	T	N	27	4	2+	14	46	E.coli	NNC	Malig	-	UTI with Malig.	Imm Malig	C
372	732897	39	f	P	A	P	A	A	P	A	A	A	A	A	A	110	70	40	cr	N	N	N	50	0.9	-	12	24	E.coli	CA	-	N	UTI with LRTI	-	UC
373	733598	70	f	P	A	A	A	A	A	A	A	A	A	A	A	70	140	90	N	N	N	HMP	16	0.6	1+	20	8	E.coli	CA	-	N	UTI with CVA	-	UC
374	733660	28	f	P	P	A	A	A	P	A	A	A	A	A	A	80	100	70	N	N	N	N	16	0.6	-	NIL	16	Et. Fecm.	CA	-	N	UTI in pregnancy	Pregnancy	C
375	733741	67	m	P	A	A	A	A	A	A	A	A	P	P	P	100	130	80	N	N	N	N	10	9	2+	12	14	Ps.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
376	734120	52	f	P	A	A	A	A	A	A	A	A	P	A	P	80	110	70	N	N	N	N	12	0.6	-	4	10	E.coli	CA	-	N	UTI with LRTI with T2DM	Imm T2DM	C
377	742286	53	f	A	P	A	A	A	A	A	A	A	A	P	P	70	80	40	N	N	N	N	6.5	5.7	-	6	27	En. Spp.	CA	-	RPC	UTI with CKD	Imm CKD	C
378	744823	54	f	P	P	A	A	A	A	A	P	A	P	P	P	80	170	90	N	N	N	N	16	9.4	3+	10	85	Staph.	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
379	747667	28	f	P	A	A	A	P	A	A	P	A	A	A	A	74	100	70	N	N	N	N	17	4.5	1+	PL	10	En. Spp.	NC	-	N	UTI with post LSCS	LSCS	C
380	733075	67	m	P	A	A	A	A	A	A	A	A	A	A	A	80	130	80	N	N	N	N	8.7	0.7	-	4	18	E.coli	CA	-	N	UTI with LRTI	-	UC
381	745837	21	f	P	P	A	A	A	A	A	A	A	A	A	A	76	110	80	N	N	N	N	25	0.33	-	3	4	K.Pneu.	CA	-	N	UTI with SB	-	UC
382	749181	70	m	A	A	A	A	A	A	A	A	P	A	A	A	100	110	80	N	N	N	N	10	1.03	1+	3	8	P. Mir.	CA	-	N	AB	-	UC
383	749842	28	f	P	A	A	A	A	A	A	A	A	A	A	A	110	70	30	N	N	N	N	44	0.3	1+	PL	10	E.coli	NC	-	N	Post LSCS with UTI	LSCS	C
384	737955	63	f	P	A	A	A	A	P	A	A	A	P	P	P	80	130	70	N	N	N	N	15	6.5	2+	10	PL	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
385	744794	49	m	A	A	A	A	A	A	P	A	A	P	A	P	90	100	60	N	N	N	N	17	3.3	2+	15	15	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
386	726381	36	f	P	A	A	A	A	A	A	P	A	A	A	A	108	100	60	N	N	N	N	46	4.5	2+	2	6	K.Pneu.	CA	-	N	UTI with SB	-	UC
387	737596	85	m	P	P	P	A	A	A	A	A	A	A	A	A	90	170	100	N	N	N	N	15	2.3	2+	8	PL	E.coli	CA	RC	PLN	PLN with RC	RC	C
388	778627	54	m	A	P	A	A	A	A	A	A	A	P	P	P	100	130	80	N	N	T	N	14	2	1+	10	32	Citr. Fr.c	CA	HUN	-	UTI with HUN with CKD with T2DM	HUN Imm T2DM, CKD	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations									Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																		BP (mm Hg)								Urine microscopy										
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction					
389	771017	65	m	P	P	P	A	P	A	A	A	A	A	A	A	86	140	90	N	N	N	N	26	2.5	1+	12	PL	E.coli	CA	-	PLN	PLN	-	UC
390	737331	60	m	P	A	A	A	P	A	A	P	A	A	A	A	84	140	90	N	N	N	N	19.5	9	-	8	15	K.Pneu.	CA	-	N	UTI with MODS	-	UC
391	757587	48	m	A	P	A	A	A	A	A	A	A	A	A	A	76	120	80	N	N	N	N	19	3.4	1+	10	22	E.coli	CA	-	N	UTI with acute GE	-	C
392	710509	70	m	A	A	A	A	A	A	A	P	A	A	A	P	80	170	90	N	N	N	N	7.5	3.2	2+	PL	PL	E.coli	CA	-	N	UTI with acute GE with RVD	Imm RVD	C
393	715846	45	m	P	A	P	A	A	A	A	A	A	A	A	P	70	120	70	N	N	N	N	5.8	5.2	3+	4	8	E.coli	NC	-	N	UTI with CLD	Imm CLD	C
394	773838	64	m	A	P	P	A	A	A	A	A	A	P	P	P	84	120	80	N	N	N	N	17	4.9	2+	8	24	E.coli	CA	-	CYS	Cystitis with T2DM with CKD	Imm T2DM, CKD	C
395	743947	42	f	P	A	A	A	P	A	A	A	A	A	P	P	80	130	80	N	N	N	N	13.7	5	2+	12	22	Citr. Fr.c	CA	-	N	UTI with CKD	Imm CKD	C
396	730655	65	m	A	A	A	A	A	A	A	P	A	P	P	P	76	140	90	N	N	N	N	16	8	2+	NIL	PL	K.Pneu.	NC	-	RPC	UTI with CLD with CKD with T2DM	Imm T2DM, CKD	C
397	712271	76	f	P	P	A	A	P	A	A	A	A	A	P	P	80	130	80	N	N	N	N	18	6	2+	NIL	20	Et. Fecm.	CA	HUN	-	UTI with HUN, malignancy with CKD	HUN Imm CKD, Malig	C
398	733059	19	f	P	P	A	A	P	A	A	A	A	A	A	A	72	120	80	N	N	N	N	22	3	1+	NIL	PL	E.coli	CA	-	PLN	PLN	-	C
399	766451	57	f	P	P	A	A	A	A	A	A	A	A	A	A	84	130	70	N	N	N	N	11.2	14.3	1+	8	20	E.coli	CA	HUN	-	UTI with HUN	HUN	C
400	721146	65	m	P	A	P	A	A	A	P	A	A	P	A	P	72	120	80	N	N	N	N	14	3	1+	14	34	E.coli	CA	HUN	PLN	PLN with T2DM	HUN Imm T2DM	C
401	738829	54	m	P	P	P	A	A	A	A	A	A	A	A	A	84	140	80	N	N	N	N	5.3	1.4	1+	4	18	E.coli	CA	HUN	-	UTI with HUN	HUN	C
402	717840	67	m	P	A	A	A	P	A	A	A	A	P	A	P	74	130	90	N	N	N	N	20.7	2.2	2+	2	15	K.Pneu.	CA	-	N	UTI with T2DM with LRTI	Imm T2DM	C
403	741873	55	m	A	A	A	A	P	A	A	P	A	A	A	A	90	90	50	N	N	N	N	27	7.4	1+	6	42	E.coli	CA	HUN	-	UTI with HUN	HUN	C
404	725117	50	m	A	P	A	A	P	A	A	A	A	A	A	P	86	100	70	N	N	N	N	15	16	2+	12	28	En. Spp.	NC	HUN	-	UTI with HUN, malignancy	HUN, Imm Malig	C
405	766939	55	f	A	A	A	A	A	A	A	A	P	A	P	P	64	130	60	N	N	N	N	29	4	2+	15	PL	E.coli	CA	-	RPC	AB with CKD	Imm CKD	C
406	715568	73	m	P	A	A	A	A	A	A	A	A	P	P	P	78	110	70	N	N	N	N	11.6	5	2+	NIL	22	K.Pneu.	CA	-	N	UTI with T2DM with LRTI with CKD	Imm T2DM, CKD	C
407	723842	37	m	P	A	A	A	P	A	A	P	A	A	A	P	70	140	90	N	N	N	N	12	12.1	1+	14	36	Staph.	NNC	Malig	-	UTI with Malig.	Imm Malig	C
408	750745	70	m	P	P	A	A	A	A	A	A	A	P	A	P	80	150	80	N	N	N	N	15	14.1	2+	12	PL	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
409	748466	54	m	A	A	A	A	P	A	A	P	A	A	A	A	110	100	60	N	N	N	N	11.9	2.9	1+	15	90	E.coli	CA	-	N	UTI with acute GE	-	C
410	771340	68	m	A	A	A	P	A	A	A	P	A	A	A	A	86	130	90	N	N	N	N	10.4	2.1	1+	10	34	E.coli	CA	-	PLN	PLN	-	C
411	740259	30	f	P	P	P	A	A	A	A	A	A	A	A	P	100	100	60	N	N	N	N	23.6	12.9	1+	NIL	PL	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
412	802088	84	m	P	A	P	A	A	A	P	A	A	A	A	A	90	120	80	N	N	N	N	6.5	2.66	2+	2	265	Citr. Fr.c	CA	BPH	-	UTI with BPH	BPH	C
413	741740	75	m	A	A	P	A	A	A	A	P	A	A	A	P	90	180	80	N	N	N	N	8.6	5.5	1+	4	10	E.coli	CA	-	PLN	PLN	-	C
414	693975	68	f	P	P	P	A	A	A	A	A	A	P	A	P	74	140	80	N	N	T	N	11.8	2.14	-	8	50	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
415	754045	70	m	P	A	A	A	A	A	A	P	A	P	A	P	120	86	50	N	N	N	N	18	7.1	1+	8	PL	E.coli	CA	-	N	UTI with T2DM with MODS	Imm T2DM	C
416	792205	42	f	P	P	A	A	A	A	A	A	A	A	A	P	90	130	80	N	N	N	N	9.4	8.3	1+	24	8	K.Pneu.	CA	-	PCKD	UTI with PCKD	PCKD	C
417	737002	51	f	P	A	A	A	A	A	A	P	A	A	A	A	110	90	60	N	N	N	N	31.3	2.4	2+	2	PL	E.coli	CA	-	PLN	PLN	-	C
418	713278	43	m	A	P	A	A	A	A	A	P	A	A	A	P	96	190	110	N	N	N	N	27.6	11	2+	6	PL	K.Pneu.	CA	-	N	UTI with CLD	Imm CLD	C
419	776322	72	m	A	P	A	A	P	A	A	P	A	A	A	A	76	130	80	N	N	N	N	6.2	4.7	1+	8	18	E.coli	CA	HUN	-	UTI with HUN	HUN	C
420	721203	62	m	A	A	A	P	A	A	A	P	A	A	A	A	96	90	70	N	N	N	N	18.6	6.2	3+	PL	PL	E.coli	CA	-	RPC	UTI with acute GE	-	C
421	801947	56	m	P	A	A	A	A	A	A	A	A	A	P	P	90	130	80	N	N	N	N	11	6.04	2+	5	37	En. Spp.	CA	-	PLN	PLN with CKD	Imm CKD	C
422	747376	28	f	A	A	A	A	A	A	A	P	A	A	A	A	84	140	90	N	N	N	N	8.3	7.9	1+	NIL	14	En. Spp.	NC	-	N	Post LSCS with UTI	LSCS	C
423	750579	40	m	A	A	A	A	A	A	A	A	A	P	A	P	84	180	100	N	N	N	N	3.2	6.7	2+	6	24	M. Morg.	CA	-	PCKD	UTI with PCKD with T2DM	PCKD, T2DM	C
424	752245	50	f	P	P	A	A	A	A	A	A	A	A	A	A	100	140	90	N	N	N	HMP	11.4	1.5	-	12	32	E.coli	NC	-	N	UTI with CVA	-	C
425	752673	40	m	P	P	A	A	A	A	A	A	A	A	A	A	100	90	60	N	N	N	N	20	0.7	-	4	3	Staph.	CA	-	N	UTI with SB	-	UC
426	753087	45	f	P	P	A	A	A	A	A	A	A	P	A	P	72	120	80	N	N	N	N	8.8	0.6	2+	8	15	E.coli	CA	-	CYS	Cystitis with T2DM	Imm T2DM	UC
427	754045	70	m	P	A	A	A	P	A	A	P	A	P	A	P	110	80	50	N	N	N	N	18.5	7.1	1+	8	PL	E.coli	CA	-	N	UTI with T2DM with MODS	Imm T2DM	C
428	800054	53	f	A	P	A	A	A	A	A	A	A	P	A	P	90	130	70	N	N	N	N	10	2.8	1+	16	51	E.coli	CA	HUN	-	UTI with HUN with T2DM	HUN Imm T2DM	C
429	759788	68	f	P	P	P	A	P	A	A	A	A	A	A	A	88	120	80	N	N	N	N	13.3	4.4	1+	18	8	Et. Fecm.	NNC	RC	CYS	Cystitis with RC	RC	C
430	754924	54	m	P	P	P	A	A	A	A	A	A	A	A	A	74	130	80	N	N	N	N	7.5	2.3	1+	NIL	14	E.coli	CA	HUN	PLN	HUN with PLN	HUN	C
431	755571	77	f	A	P	A	A	P	A	A	A	A	P	A	P	90	100	70	N	N	N	N	13.5	2	2+	14	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation										Risk factors			General physical examination			Systemic examination				Investigations								Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																		BP (mm Hg)							Urine microscopy										
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction				
432	757117	79	m	P	A	A	A	A	A	P	A	A	A	P	P	86	140	70	N	N	N	N	10.4	1.4	1+	2	16	E.coli	CA	-	RPC	UTI with CKD with LRTI	Imm CKD	C
433	737857	74	m	P	A	A	A	A	A	A	P	A	A	A	A	104	90	60	N	N	N	N	8.9	2.06	1+	6	PL	E.coli	CA	HUN	-	UTI with HUN	HUN	C
434	758893	55	m	A	A	A	A	A	A	A	P	A	A	A	A	70	120	80	N	N	N	N	9.8	7	1+	NIL	PL	E.coli	CA	NB	-	UTI with NB	NB	C
435	763108	75	f	P	P	A	A	A	A	P	A	A	A	A	A	72	120	70	N	N	N	N	21.7	4	2+	PL	PL	Ky. Ascor	CA	-	PLN	PLN	-	C
436	757826	67	m	P	P	A	A	P	A	A	A	A	A	A	A	80	130	70	N	N	N	N	2.6	0.8	1+	6	24	P. Aer.	CA	-	CYS	Cystitis	-	UC
437	757840	18	m	P	A	A	A	A	A	A	A	A	A	A	A	72	80	60	N	N	N	N	4	0.8	-	10	12	Et. Fecm.	CA	-	N	UTI with SB	-	UC
438	758047	84	f	P	A	P	A	A	A	A	A	A	P	A	P	100	90	60	N	N	N	N	35	2.1	3+	14	28	E.coli	CA	-	N	UTI with T2DM with LRTI	Imm T2DM	C
439	757945	45	m	P	A	A	A	P	A	A	P	A	A	A	A	80	130	80	N	N	N	N	11.9	2.6	1+	4	PL	E.coli	CA	-	PLN	PLN	-	C
440	758321	81	m	P	A	A	A	A	A	A	A	A	P	A	P	100	120	70	cr	N	N	N	20	1.3	1+	2	20	En. Spp.	CA	-	N	UTI with T2DM with LRTI	Imm T2DM	UC
441	759457	54	m	P	A	A	A	A	A	P	A	A	P	A	P	76	130	80	N	N	N	N	8	4.1	3+	2	6	P. Relig.	NC	BPH	-	UTI with BPH with T2DM	BPH Imm T2DM	C
442	760267	28	m	A	P	A	A	P	A	A	A	A	A	A	A	80	130	90	N	N	N	N	9	0.8	-	40	12	Ps.	NC	RC	-	UTI with RC	RC	C
443	760925	70	f	P	P	A	A	A	A	A	P	A	P	A	P	74	130	70	N	N	N	N	12	0.9	2+	6	16	En. clo.	CA	-	N	UTI with SBwith T2DM	Imm T2DM	UC
444	761073	33	f	A	A	A	A	A	A	A	A	A	A	A	A	80	100	60	N	N	N	N	3.7	0.9	-	4	20	En. clo.	CA	-	N	UTI in pregnancy	Pregnancy	C
445	761174	50	f	A	P	P	A	A	A	A	A	A	P	A	P	76	110	70	N	N	N	N	10	0.6	2+	22	30	En. clo.	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
446	761332	73	m	A	A	A	A	A	A	A	P	A	P	A	P	80	130	70	N	N	N	N	10	13	3+	10	4	P. Relig.	CA	-	N	UTI with SBwith T2DM	Imm T2DM	C
447	761363	50	m	A	P	A	A	A	A	A	A	A	A	A	A	74	130	80	N	N	N	N	15	0.8	-	3	8	Et. Fecm.	CA	RC	-	UTI with RC	RC	C
448	761653	65	m	A	A	P	A	A	A	A	A	A	A	A	P	86	140	90	N	N	N	N	20	1.6	-	NIL	15	En. clo.	NC	Malig	-	UTI with Malig.	Imm Malig	C
449	761965	55	m	P	A	A	P	A	A	A	A	A	A	A	A	90	140	90	N	N	N	N	25	1.5	-	2	18	E.coli	CA	BPH	-	UTI with BPH	BPH	C
450	761670	30	m	P	P	A	A	A	A	A	A	A	A	A	A	84	130	70	N	N	N	N	17	0.8	-	1	12	P. Vulg.	CA	-	N	UTI with SB	-	UC
451	762357	50	f	A	P	A	P	A	A	A	A	A	A	A	A	72	100	70	N	N	N	N	22	0.6	1+	2	PL	Ky. Ascor	CA	-	CYS	Cystitis	-	UC
452	762237	27	f	A	P	A	A	P	A	A	A	A	A	A	A	80	110	70	N	N	N	N	10	3.9	2+	PL	4	Et. Fecm.	NC	RC	-	UTI with RC	RC	C
453	756061	63	m	A	A	A	A	A	A	A	A	P	P	P	P	70	160	90	N	N	N	N	6.5	7.9	3+	4	26	P. Relig.	CA	-	RPC	AB with CKD,T2DM	Imm T2DM, CKD	C
454	801944	39	m	P	P	P	P	A	A	P	A	A	A	A	A	86	94	60	N	N	N	N	11.4	2.9	2+	6	PL	E.coli	CA	-	PLN	PLN	-	UC
455	792808	43	f	A	P	A	A	P	A	A	A	A	A	A	A	80	110	66	N	N	N	N	7.7	1.2	1+	NIL	PL	E.coli	CA	RC	-	UTI with RC	RC	C
456	766437	30	f	P	A	A	A	A	A	A	A	A	A	A	A	76	110	70	N	N	N	N	9	0.7	1+	NIL	10	E.coli	NC	-	RPC	Post LSCS with UTI	LSCS	UC
457	799733	67	m	A	P	A	P	A	A	A	P	A	A	A	A	68	130	80	N	N	N	N	10.4	1.4	2+	2	19	E.coli	CA	HUN	-	UTI with HUN	HUN	C
458	796119	64	m	P	A	A	A	A	P	A	A	A	A	A	A	80	140	80	N	N	N	N	12	1.2	Tr	NIL	2	E.coli	CA	-	N	UTI with SB	-	UC
459	797762	70	m	P	P	A	A	A	P	A	A	A	A	A	A	73	120	80	N	N	N	N	9	1.5	Tr	NIL	12	P. Vulg.	CA	-	CYS	Cystitis	-	UC
460	782707	22	f	P	P	P	A	A	A	A	A	A	A	A	A	64	100	70	N	N	N	N	7	0.8	-	NIL	PL	K.Pneu.	CA	-	PLN	PLN in pregnacy	Pregnancy	C
461	785979	70	m	P	A	A	A	A	A	P	A	A	P	A	P	70	110	80	N	N	N	N	12	1.6	Tr	NIL	18	E.coli	CA	-	PCKD	UTI with PCKD with T2DM	PCKD, T2DM	C
462	798223	47	m	P	P	A	A	A	A	P	A	A	A	A	A	80	120	70	N	N	N	N	20	1.5	Tr	NIL	**18**	E.coli	CA	-	CYS	Cystitis	-	C
463	809409	31	f	P	P	P	A	A	A	A	A	A	A	A	A	80	120	80	N	N	N	N	12	1.2	Tr	4	14	E.coli	CA	RC	-	UTI with RC	RC	C
464	790705	85	f	P	P	A	A	A	A	A	A	A	P	A	P	72	130	80	N	N	N	N	24	8	1+	18	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
465	798128	80	m	P	P	A	A	A	P	A	P	A	A	A	A	82	140	80	N	N	N	N	13.4	6.4	-	5	141	K.Pneu.	CA	-	CYS	Cystitis	-	C
466	794717	54	m	P	P	P	A	A	A	A	A	A	A	A	A	90	120	80	N	N	N	N	14.2	1	2+	NIL	14	E.coli	CA	-	PLN	PLN	-	UC
467	792021	70	m	P	A	P	A	A	A	A	A	A	P	A	P	80	140	90	N	N	N	N	13	2.5	1+	26	185	E.coli	CA	-	N	UTI with CLD with T2DM	Imm T2DM	C
468	783554	48	f	P	P	A	A	A	A	A	A	A	P	A	A	80	120	70	N	N	N	N	15	1.4	-	3	10	Et. Spp.	CA	-	CYS	Cystitis with T2DM	Imm T2DM	C
469	796652	66	m	P	A	A	A	A	P	A	A	A	P	A	P	96	110	80	N	N	N	N	28	5.05	3+	28	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
470	789021	52	m	P	P	P	A	A	A	A	A	A	A	A	P	86	110	70	N	N	N	N	22	9.5	2+	20	PL	Et. Spp.	NC	HUN	-	UTI with HUN, malignancy	HUN Imm Malig	C
471	782763	29	m	A	A	A	A	A	P	A	A	A	P	A	P	70	100	60	N	N	N	N	16	2.1	2+	10	8	E.coli	CA	-	N	UTI with SBwith T2DM	Imm T2DM	C
472	774357	55	m	A	A	A	A	A	A	A	P	A	P	A	P	80	160	90	N	N	T	N	13	3	3+	PL	20	Citr. Fr.c	CA	-	N	UTI with T2DM	Imm T2DM	C
473	798423	49	m	P	A	A	A	A	P	A	A	A	A	A	A	76	140	80	N	N	N	N	17.1	1.5	-	2	10	E.coli	CA	BPH	-	UTI with BPH	BPH	C
474	795451	34	m	P	A	A	A	A	A	A	A	A	P	P	P	110	140	90	N	N	N	N	19.5	10	3+	10	20	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C

ANNEXURE III MASTER CHART

Serial number	In patient number	Age (Years)	Sex	Clinical presentation									Risk factors			General physical examination			Systemic examination				Investigations							Imaging findings		Diagnosis	Risk factors	Complicated/uncomplicated UTI
																	BP (mm Hg)						Urine microscopy										
				Fever with chills	Pain abdomen	Burning micturation	Dysuria	Hematuria	Vomitings	Increased frequency of urination	Reduced urine output	No symptoms	Diabetes mellitus	Chronic kidney disease	Immunocompromised state	Pulse(/min)	Systolic (mmHg)	Diastolic (mmHg)	Respiratory system	Cardiovascular system	Per abdomen	Central nervous system	Total count (thousand/Cumm)	Serum creatinine (mg/dL)	Protiens	RBC	WBC	Urine culture - Organism	Type of UTI	Obstruction	Non-Obstruction			
475	780487	77	m	P	A	A	A	A	A	A	A	A	P	A	P	118	120	70	N	N	N	N	19	1.2	1+	5	120	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
476	795262	52	f	P	A	A	A	A	A	A	A	A	P	A	P	80	110	70	N	N	N	N	9.5	0.5	Tr	nIL	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	UC
477	809946	57	m	A	P	A	A	A	A	A	A	A	A	P	P	76	150	80	N	N	T	N	30	4.2	2+	3	10	E.coli	CA	-	RPC	UTI with CKD	Imm CKD	C
478	728141	36	m	P	P	A	A	A	P	A	P	A	P	P	P	94	130	80	N	N	T	N	15	4.7	2+	PL	PL	Et. Spp.	CA	-	PLN	PLN with CKD with T2DM	Imm T2DM, CKD	C
479	762560	30	m	P	P	A	A	A	A	A	A	A	A	P	P	100	180	100	N	N	N	N	7.4	10.2	2+	8	PL	E.coli	CA	-	PLN	PLN with CKD	Imm CKD	C
480	77707	69	m	P	P	A	A	A	A	A	P	A	A	A	A	112	130	80	N	N	N	N	10.4	2.1	2+	8	10	E.coli	CA	-	N	UTI with MODS	-	UC
481	812746	70	m	A	A	A	A	A	P	A	A	A	A	A	P	92	140	80	N	N	N	N	23	3.6	1+	2	14	E.coli	CA	-	N	UTI with RVD	Imm RVD	C
482	790454	51	m	A	P	P	A	A	A	A	A	A	P	P	P	102	180	100	N	N	N	N	12	1.8	3+	4	PL	E.coli	CA	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
483	739574	63	m	P	P	A	P	A	A	A	A	A	P	A	P	84	120	70	N	N	T	N	12	4.2	2+	6	PL	E.coli	CA	HUN	-	UTI with HUN with RVD with T2DM	HUN Imm T2DM, RVD	C
484	693484	58	f	A	P	A	A	A	A	A	A	A	A	A	A	76	120	84	cr	N	N	N	84	0.7	-	NIL	8	E.coli	CA	-	CYS	Cystitis	-	UC
485	758656	56	m	P	A	A	A	A	A	A	A	A	A	P	P	80	120	70	N	N	N	N	13	7.1	2+	2	PL	En. Spp.	CA	-	RPC	UTI with CKD	Imm CKD	C
486	758426	50	f	P	P	A	A	A	P	A	A	A	P	P	P	110	170	90	N	N	N	N	24	7.4	1+	PL	5	E.coli	CA	-	N	UTI with CKD with T2DM	Imm T2DM, CKD	C
487	750679	46	f	A	A	P	A	A	P	A	A	A	A	A	A	80	110	70	N	N	N	N	11.4	1	Tr	NIL	18	E.coli	CA	-	CYS	Cystitis	-	UC
488	787014	65	m	A	P	A	A	A	A	A	P	A	P	P	P	74	130	80	N	N	N	N	13	4.9	3+	4	PL	En. clo.	CA	-	PLN	PLN with T2DM with CKD	Imm T2DM, CKD	C
489	800674	68	m	P	A	A	A	A	P	A	A	A	P	P	P	84	150	86	N	N	N	N	13.2	4.8	2+	3	PL	E.coli	CA	HUN	-	UTI with HUN with T2DM with CKD	HUN Imm T2DM, CKD	C
490	808639	69	m	P	A	A	A	A	A	A	A	A	P	A	P	78	140	80	N	N	N	N	10.3	2	-	NIL	PL	P. Aer.	CA	-	N	UTI with SBwith T2DM	Imm T2DM	C
491	713583	79	m	A	P	A	A	A	A	P	A	A	P	A	P	72	110	70	N	N	N	N	15.2	1.7	2+	NIL	12	K.Pneu.	CA	-	N	UTI with T2DM	Imm T2DM	C
492	733425	60	f	A	P	A	A	A	A	A	P	A	P	A	P	80	110	70	N	N	N	N	14.6	2.66	2+	7	PL	E.coli	CA	-	PLN	PLN with T2DM	Imm T2DM	C
493	788512	50	f	P	A	P	A	A	P	A	P	A	P	A	P	78	100	60	N	N	T	N	9	3.4	1+	3	PL	E.coli	CA	HUN	PLN	HUN with PLN with T2DM	HUN Imm T2DM	C
494	792234	55	m	P	P	A	A	A	P	A	A	A	P	P	P	90	140	90	N	N	N	N	14.6	6.4	2+	3	PL	E.coli	CA	-	PLN	PLN with T2DM with CKD	Imm T2DM, CKD	C
495	778596	56	f	A	P	A	A	A	A	A	A	A	A	A	A	76	120	70	N	N	N	N	16.2	1	-	3	12	P. Aer.	CA	-	N	UTI with SB	-	UC
496	803152	57	m	A	P	A	A	A	A	A	A	A	P	P	P	64	220	110	N	N	N	N	9	3.9	2+	2	PL	E.coli	CA	-	RPC	UTI with CLD with CKD with T2DM	Imm T2DM, CKD	C
497	806597	70	f	P	A	A	A	A	A	A	A	A	P	P	P	100	90	60	cr	N	N	N	17	10	3+	6	PL	En. clo.	NC	-	RPC	UTI with CKD with T2DM	Imm T2DM, CKD	C
498	774733	56	m	A	A	A	P	A	A	A	A	A	P	A	P	76	140	90	N	N	N	N	10	0.9	1+	NIL	18	E.coli	NNC	-	N	UTI with T2DM	Imm T2DM	UC
499	682208	20	m	P	P	A	A	A	A	A	P	A	A	A	A	84	130	70	N	N	T	N	12	2.2	1+	2	10	Y. Ent.	CA	-	N	UTI with SB	-	C
500	807012	56	m	P	A	A	A	A	A	A	A	A	P	P	P	74	80	50	N	N	N	N	16	5	2+	6	PL	E.coli	CA	HUN	PLN	HUN with PLN with acute GE with CKD with T2DM	HUN Imm T2DM, CKD	C