# "INJECTION CARBETOCIN VS INJECTION OXYTOCIN IN REDUCTION OF POSTPARTUM BLOOD LOSS IN CAESAREAN SECTION- A RANDOMIZED CONTROLLED TRIAL."


**BY**

**REG. NO. BJ0121018**


# Dissertation

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With reference to the above, we wish to inform you that your proposed research project titled **"INJECTION OXYTOCIN VS INJECTION CARBETOCIN IN REDUCTION OF POSTPARTUM BLOOD LOSS IN CAESAREAN SECTION – A RANDOMIZED CONTROL STUDY"** is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee.

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# ABBREVIATIONS

| | | |
|---|---|---|
| ACOG | - | American College of Obstetricians and Gynaecologists |
| AMTSL | - | Active management of third stage of labour |
| BMI | - | Body mass Index |
| CDC | - | Centre for Disease Control |
| CDMR | - | Caesarean section done at Maternal Request |
| CTRI | - | Clinical Trials Registry – India |
| EDD | - | Expected Date of Delivery |
| Hb | - | Haemoglobin |
| Hct | - | Haematocrit |
| ICH | - | International Council for Harmonisation of Technical |
| JNMC | - | Jawaharlal Nehru Medical College |
| KAHER | - | KLE Academy of Higher Education and Research centre |
| KLES | - | Karnataka Lingayat Educational Society |
| LMP | - | Last Menstrual Period |
| LSCS | - | Lower Segment Caesarean Section |
| ml | - | Millilitre |
| MW | - | Mann Whitney U test |
| PCV | - | Packed Cell Volume |
| PPH | - | Postpartum Haemorrhage |
| PRBC | - | Packed Red Blood Cells |
| PT | - | Paired t Test |
| RCT | - | Randomized Controlled Trial |
| | | Requirements for Pharmaceuticals for Human Use. |
| SD | - | Standard Deviation |
| t test | - | Two sample t test |
| VBAC | - | Vaginal birth after cesarean section |
| WHO | - | World Health Organization |

# ABSTRACT

**Introduction:** Postpartum haemorrhage is one of the leading causes of maternal mortality, accounting for 35% of maternal deaths worldwide. The focal point of prevention of PPH is the use of uterotonic drugs immediately after birth of new born. Oxytocin is most widely accepted uterotonic agent and standard therapy for the prevention of postpartum haemorrhage over years.

Use of Heat Stable Carbetocin is also recommended and has added advantages. Major advantage of Heat Stable Carbetocin is that formulation is heat stable and useful in countries where cold chain is unreliable.

**Objective:**

1. To find out effectiveness of Inj. Oxytocin vs Inj. Heat Stable Carbetocin in reduction of postpartum blood loss in caesarean section.

**Materials and methods:** This randomized controlled trial was conducted from April 2023 to May 2024 A KAHERS' Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi. A total of 270 women who met the inclusion criteria were randomized into two groups by envelop method. Group A received 100mcg of Heat Stable Carbetocin IM after delivery of the baby.

Group B received 10 IU of Oxytocin IM. Gravimetrically measured blood loss was recorded. Data was analysed using statistical software R version 4.4.0 and Microsoft Excel and $p<0.05$ was considered significant.

**Result:** A total of 525 participants were screened and 270 enrolled in the study and further randomized into Group A and Group B. The demographic characteristics were

well matched between the two groups. Estimated blood loss was 350ml in group A and 420ml in group B. The need for additional uterotonics was similar in both the groups. The Mean haemoglobin levels were 11.7 mg/dl pre -operatively and 10.8 mg/dl post-operatively in group A and similarly the mean haematocrit levels were 11.7 mg/dl pre-operatively and 10.6 postoperatively in group B.

**Conclusions:** This study shows that Heat Stable Carbetocin is non inferior to Oxytocin and similar results for prevention of postpartum haemorrhage and use of additional uterotonics. This hence proven will aid to the use of Heat Stable Carbetocin in low resource settings as a standard uterotonic instead of oxytocin which requires cold storage.

**Key words-** Uterotonics, Heat Stable Carbetocin, Caesarean section.

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# INTRODUCTION

Haemorrhage is one of the leading causes for maternal mortality and morbidity, accounting for 27.1 % of all maternal deaths globally. 72.6% of these deaths are due to postpartum haemorrhage[1,2]. According to WHO, each year, about 14 million women experience PPH resulting in about 70,000 maternal deaths globally[3]. In India, PPH accounts for 38 percent of maternal deaths (RGI-SRS 2001-2003). The Registrar General of India's Special Bulletin on MMR, which was published in November 2022, revealed a 10-point drop in MMR, from 113 in 2016–18 to 103 in 2017–19 and further to 97 in 2018-2020[4]. Obstetric haemorrhage, which has been documented in 47% of cases, is the major cause of maternal death in India; however, the figure may be greater in poorer regions[5].Even when women survive, they often need urgent surgical interventions to control the bleeding and may be left with lifelong reproductive disability.

Prevention of post-partum haemorrhage (PPH) is a major issue due to its impact on maternal morbidity and mortality. Thus, it is imperative to focus efforts on minimizing blood loss both during and after delivery.

The primary PPH is defined as blood loss more than 500 mL after vaginal delivery and more than 1000 mL after caesarean section, that occurs in the first 24 hours after delivery[6]. It is well noted that even in the absence of any risk factors postpartum haemorrhage is common. To prevent the occurrence of PPH, active management of third stage of labour is mandatory to practice.

The components of AMTSL during delivery to prevent PPH are administration of prophylactic uterotonics after delivery of newborn, early clamping and cutting of

umbilical cord, controlled cord traction and uterine massage[7]. However, the focal point of active management in prevention of PPH is the use of uterotonic agents such as Oxytocin, methylergometrine, misoprostol and more recently Heat Stable Carbetocin[8] . Heat Stable Carbetocin was initially discovered in the 1970s and over the years chemically modified to a heat stable formulation for use in low resource settings.

Oxytocin 10IU, administered intramuscularly is the preferred medication for the prevention of PPH over years and listed in the WHO Model of essential medicines. Oxytocin is relatively inexpensive and widely available; however, it requires refrigeration for transport and storage (2–8 °C). In settings where this cannot be guaranteed, the quality and effectiveness of oxytocin may be adversely affected[9].

Heat Stable Carbetocin is a long-acting synthetic analogue of oxytocin with a half-life of 4 to 10 times than that of oxytocin. The use of Heat Stable Carbetocin 100mcg is recommended by WHO in 2018 after evidence based on the updated Cochrane Network meta-analysis of the seven uterotonic options. for the prevention of PPH when oxytocin is not available or cold chain is not maintained. The major advantage of Heat Stable Carbetocin is that the formulation is heat stable and is particularly useful in developing countries where the cold chain is unreliable. The additional advantages of Heat Stable Carbetocin are that it is easily available, cost effective and has prolonged duration of action[9].

In conclusion, both oxytocin and Heat Stable Carbetocin are valuable medications in the management of postpartum haemorrhage. While oxytocin is a well-established and widely used medication, Heat Stable Carbetocin offers certain advantages that may be beneficial in specific clinical situations. The use of Heat

Stable Carbetocin reduced the requirement for additional uterotonics or procedures in women in high-risk pregnancies.

Very little research has been conducted among women with caesarean sections with greater risk of postpartum haemorrhage. This study aims to focus on these aspects.

# OBJECTIVES

**AIM OF STUDY:**

1. To find out effectiveness of Inj. Oxytocin vs Inj. Heat Stable Carbetocin in reduction of postpartum blood loss in caesarean section.

**PRIMARY OBJECTIVE:**

2. To study the effectiveness of Heat Stable Carbetocin and oxytocin in reducing the post-partum blood loss in caesarean section.

**SECONDARY OBJECTIVES:**

3. To study the need for additional uterotonic agents and additional procedures in management of blood loss following caesarean sections.

# REVIEW OF LITERATURE

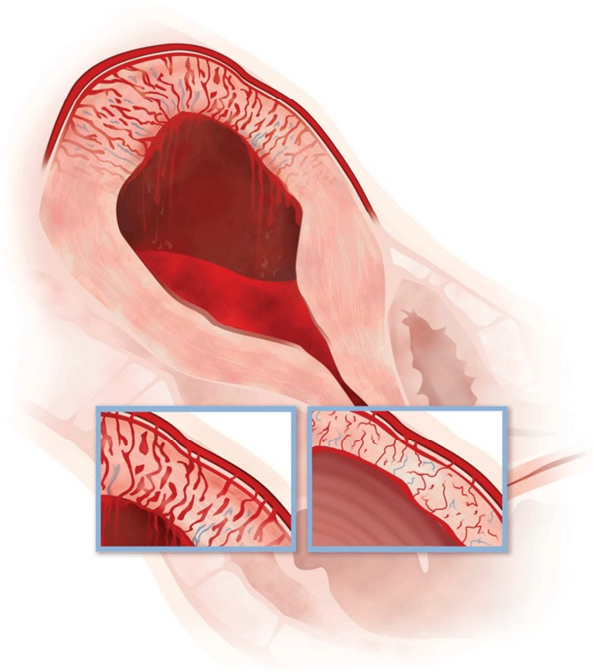


***Figure no 1:Uncontracted uterus; blood from severed vessels of the placenta.***

## POSTPARTUM HEMORRHAGE

Postpartum haemorrhage continues to be a significant concern in maternal health, contributing to a substantial portion of maternal deaths globally and leading to severe complications like blood transfusion and emergency surgery. PPH accounts for approximately 35% of all maternal deaths globally, making it the most common cause of mortality for mothers[10]. After a vaginal delivery, the incidence of PPH is 2%–4%, and following a caesarean section, it is 6%.

Among 24 million childbirths in 2017; the number of maternal deaths translates to a maternal mortality rate of 145 per 100,000 live births. Globally, 12% of maternal deaths occurred at this rate[5]. India's Maternal Mortality Ratio (MMR)

decreased from 113 per 100,000 in 2016–18 to 103 per 100,000 in 2017–19 and 97 per 100,000 in 2018-2020. The highest MMRs were recorded in Madhya Pradesh/Chhattisgarh (170), Uttar Pradesh/Uttarakhand (103), and Assam (195). Karnataka has the highest MMR of any state in South India, coming in at 69 (2020)[11].

Improving care during childbirth to prevent PPH is a necessary step towards the achievement of the health targets of the third Sustainable Development Goal (SDG 3), particularly target 3.1: reduce the global maternal mortality ratio to less than 70 per 100 000 live births by 2030[12]. Ninety-four percent of maternal deaths worldwide occur in low- and middle-income countries, as well as in countries impacted by humanitarian crises and fragility. Presently, PPH is responsible for about 25% of pregnancy-related deaths globally, with most PPH deaths affecting women who reside in areas with few resources. PPH can have catastrophic consequences for partners, kids, and communities, as well as for women and their families. Longer hospital stays, more surgeries, and lengthier recovery are caused by the severe maternal morbidities that are frequently linked to PPH[13]. Most of the time, the perinatal team can avoid maternal death and minimize morbidity by providing timely, evidence-based care that includes uterotonics, uterine massage, fluid replacement, and tranexamic acid[14].

**Definition**

In 2017, the American College of Obstetrics and Gynaecology redefined postpartum haemorrhage "cumulative blood loss greater than 1000 mL with signs and symptoms of hypovolemia within 24 hours of the birth process, regardless of the route of delivery" [15].

Royal College of Obstetricians and Gynaecologists (2016)

Defined PPH as when blood loss is more than 500 ml regardless of the route of delivery. PPH minor: 500–1000 ml (one or two pints). major: 1000ml (more than two pints)[16].

The most recent WHO definitions of PPH (2012), for vaginal births, 'PPH is defined as blood loss >500 mL, and severe PPH is defined as loss of >1000 mL'.

In cases of caesarean birth, 'PPH is defined as blood loss more than 1000 ml'[17].

**Types of Post partum hemorrhage**

Postpartum hemorrhage (PPH) can be categorized into two main types based on the time of onset and underlying causes:

***Primary Postpartum Hemorrhage:*** This type occurs within the first 24 hours after childbirth. Primary PPH is further classified into:

- *Immediate PPH:* Hemorrhage that occurs within the first 24 hours after delivery, usually within the first hour.
- *Early PPH:* Hemorrhage that occurs within the first 24 hours but after the first hour following childbirth.

***Secondary Postpartum Hemorrhage:*** This type occurs after the first 24 hours and up to 6 weeks postpartum. Secondary PPH is often caused by delayed complications such as retained placental tissue, subinvolution of the uterus, or infection[18].

**Etiology /Risk factors**

While there exist several identifiable risk factors for PPH, most cases occur unexpectedly. An easy way to remember the most common aetiologies is to remember the four T's[19,20,21]:

- Uterine Tone: Atonicity of the uterus (comprises of 70% of PPH cases).
- Trauma: Genital tract trauma.
- Tissue: Retained products of conception.
- Thrombin: Coagulation disorders.

Uterine Atony: - Pregnancies complicated by chorioamnionitis, multiparity, general anaesthesia, and other causes leading to uterine overdistension such as multiple foetal gestation, polyhydramnios, and foetal macrosomia can all be expected to result in uterine atony following prolonged labour, especially when oxytocin is used.

Trauma is responsible for 15%–20% of cases and is usually due to perineal or cervical lacerations, perineal hematomas, episiotomies, or uterine rupture. These occur in the setting of immediate uncontrolled deliveries or operative vaginal deliveries.

Retained products of conception have a 3.5-fold increased incidence of PPH. Previous instrumentation and succenturiate placenta are risk factors.

Coagulation disorders can be classified as acquired or inherited. Inherited conditions include haemophilia, idiopathic thrombocytopenic purpura, and von Willebrand diseases. Acquired conditions include the use of anticoagulant therapy and

the development of disseminated intravascular coagulopathy following abruption, sepsis, intrauterine foetal death, and amniotic fluid embolism. Unusual placentation and uterine inversion are two more aetiologies[19,20,21].

Postpartum haemorrhage, particularly due to uterine atony, is a significant concern in maternal health, accounting for a high percentage of maternal deaths globally. Using uterotonic medicines, which lowers PPH risk by 60%, is the cornerstone of aggressive third stage labour management[8]. Oxytocin is supported as first-line uterotonic and needs refrigeration to remain effective. Oxytocin is the recommended uterotonic for preventing and treating PPH. In contrast, heat stable Carbetocin is indicated only for PPH prevention[9]. Education and monitoring, including pharmacovigilance, are paramount.

**Oxytocin**

The British pharmacologist Sir Henry Hallett Dale made the discovery of oxytocin. Pituitary extract was used in 1920 to separate the hormones vasopressin and oxytocin. Oxytocic is the Greek word for Oxytocin which means Quick birth[22].

**Oxytocin Chemical Structure**

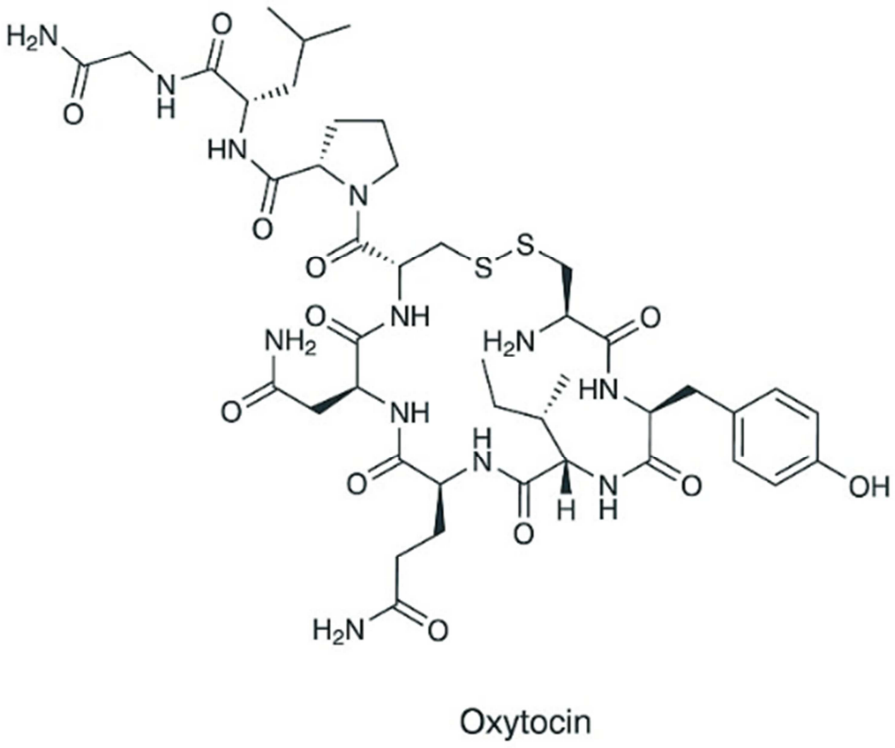



***Figure no.2: Chemical structure of oxytocin***

It is a neuro nonapeptide. It is comparable to Vasopressin (ADH). It has a tail made up of three amino acids (Pro7, Leu8, Gly9-NH2) and six amino acid rings (Cys1, Tyr2, Ile3, Gln4, Asn5, Cys6). Oxytocin's potency may be lost, as a result of any modifications made to its chemical structure, resulting in either physical or chemical instability[23].

**Synthesis of Oxytocin:**

In both the paraventricular and supraoptic nuclei of the hypothalamus, oxytocin is synthesized as a precursor in neuronal cell bodies. By means of neurohypophysis, it is transported to the pituitary and stored as granules[23].

**Mechanism of action**

Oxytocin exerts its action through OXT receptor which is a G Protein Coupled Receptor. It increases prostaglandin production which induces and enhances uterine contraction[23].

**Effects of Oxytocin[24]**

Uterus:

It intensifies and prolongs uterine contractions, particularly in a term uterus. A nonpregnant uterus has a comparatively high oxytocin resistance. During labor, it relaxes the lower portion of the uterus and raises the tone of the upper section. It produces sporadic relaxation in between contractions at low dosages. Only with greater dosages does basal tone rise. The uterus is more sensitive to oxytocin when estrogen is present.

Breasts:

Suckling causes the myoepithelial cells in the mammary alveoli to contract, which causes oxytocin to trigger the milk ejection reflex.

CVS:

Larger oxytocin dosages cause vasodilatation, which causes hypotension. It results in tachycardia and flushing. Soon after birth, oxytocin causes umbilical arteries to constrict.

Kidneys:

When a large volume of fluid is delivered along with oxytocin, the higher dosages of oxytocin have an activity similar to that of ADH, which can cause water intoxication and pulmonary edema.

Brain:

Parental bonding is improved by oxytocin. In addition to vasopressin, it integrates sensory data in the brain, modifies food intake and metabolism, and governs the socio-emotional behavior of dread and anxiety. It is the trust-regulating center in CNS[24].

**Pharmacokinetics**

Oxytocin is inactivated during oral administration and hence not administered by oral route. It is not bound to plasma proteins. It is metabolized by oxytocinase and eliminated via the kidneys. Short half-life of oxytocin is five-ten minutes[25].

**Oxytocin antagonist**

Atosiban is a oxytocin antagonist which can be used to inhibit contractions during preterm Labour[26].

**Therapeutic Uses of Oxytocin**

1. Induction of labour

When uterine inertia is present or early vaginal delivery is necessary, oxytocin is given to induce and augment labor.

Pregnancy-related toxemia, gestational diabetes mellitus, and prenatal placental insufficiency are among the conditions that call for an early vaginal delivery.

2. Milk Ejection Reflex Promotion

Before nursing, oxytocin is utilized to encourage milk ejection. used as a nasal spray with 25–30 IU in each nostril. The amount of milk produced is not increased.

3. Prevention of Postpartum haemorrhage

To avoid PPH, the World Health Organization strongly advises all women to receive 10 IU of injectable oxytocin shortly after giving birth, regardless of whether they deliver vaginally or by a caesarean section.

4. Treatment of PPH

Oxytocin is the first-line medication used to treat PPH. Unless fluid restriction is required, 5 IU is administered by gradual intravenous injection, or 40 IU is infused at a rate of 125 ml/hour in 500 ml of Hartmann solution. Three litres is the maximum amount of fluid that should be infused to avoid water intoxication[25,26].

**Adverse Effects:**

Rupture of uterus, Foetal asphyxia, water intoxication

**Oxytocin formulations:**

There are formulations of oxytocin that can be administered intramuscularly or intravenously[25].

You can get oxytocin in vials or as a 1 ml ampule. Ten IU of oxytocin and

either ethanol or chlorbutanol are present in each milliliter. Glacial acetic acid, sodium acetate trihydrate, sodium hydroxide, sodium chloride, and water are the excipients in the WHO-approved product RH 053. The pH scale is 2 to 5[27].

**Storage conditions**

It is best to store oxytocin between 2°C and 8°C. Thus, having a cold storage facility, refrigeration, and cold chain maintenance is essential. Potency loss and the production of toxic metabolites and compounds occur when oxytocin is kept at room temperature. When oxytocin is exposed to room temperature, it breaks down into several pH-dependent metabolites. Ideal pH is 4.5 which should be kept at in order to preserve the efficacy of oxytocin. Since the toxic metabolite is a peptide, there is no safety concern. Oxytocin can be stored at room temperature for up to one month at 30°C and one week at 40°C[28].

Therefore, it is evident that the primary drawback of oxytocin is the parenteral method of administration and the strict storage conditions that must be met.

**CARBETOCIN**

Carbetocin is a novel synthetic analogue of oxytocin with a chemical formula of $C_{45}H_{69}N_{11}O_{12}S$ which is 1- deamino-1-monocarbo oxytocin described first in 1987. Half-life of heat stable Carbetocin is 40 minutes, which is 10 times longer than that of oxytocin[29]. The recommended dose is 100µg intramuscularly.

A single 100µg dose causes uterine contractions in less than two minutes, and because of prolonged uterine contractility with increasing amplitude and frequency, the activity lasts for around an hour[30].

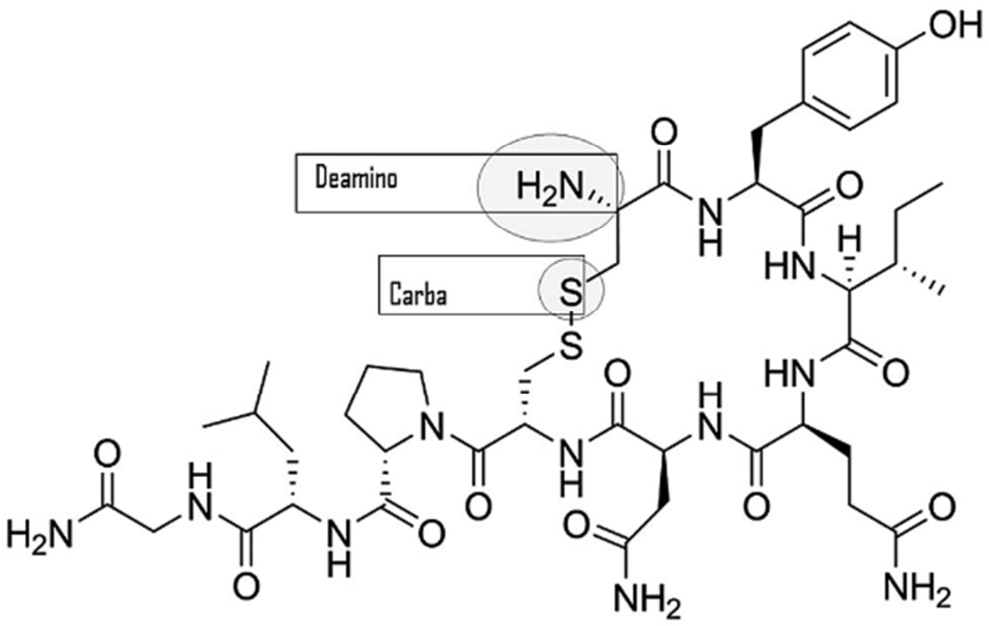



***Figure no. 3: Chemical structure of Carbetocin.***

Alterations done to create Heat Stable carbetocin.

1. The amino group was removed, no Amino terminal charge; stable to aminopeptidases

2. Sulphur atom was replaced by a carba group. Ring is closed by sulfide bridge and hence resistant to reduction.

3. O-Methyl Tyrosine is added. Resistant to chymotrypsin.

Due to the modification in the chemical structure, carbetocin can avoid the cleavage of aminopeptidase and disulfide compounds, thereby enhancing its stability and its higher affinity for receptor[27].

- At pH values ≥4, the primary mechanism for oxytocin breakdown begins at the disulphide bond, where beta-elimination and the synthesis of N-terminal

dehydroalanine occur. This compound is then isomerized to enamine and hydrolysed to pyruvyl group. The latter uses an aldol reaction to start the dimerization. Two elements are needed for this process: a Nα group and a disulphide. Since carbetocin lacks these characteristics, the process of dimerization is obstructed. Hence, unlike oxytocin, heat stable carbetocin is not subject to the upper pH restriction needed to prevent dimerization, allowing for a wider pH interval to be investigated. The drawback of the low pH value required to reduce oxytocin dimerization is the increase of degradation by deamidation, which makes temperature control necessary.

- It is discovered that deamidation, oxidation, and racemization are the three primary pathways by which carbetocin degrades. As with oxytocin, low pH (acid-catalysed hydrolysis) and high pH (direct base hydrolysis) both partially promote deamidation of the amidated glycine C-terminus and the amide sidechains of asparagine and glutamine. Elevating the pH causes the thioether bond to oxidize more quickly. At pH values higher than about 6, one significant pathway for degradation is the racemization of the asparagine residue from the L to the D form. As a result, finding an antioxidant that blocks the oxidation pathway across the whole pH range under investigation and then determining the pH of the solution where the total of the remaining degradation pathways is minimized are crucial steps in creating a heat-stable formulation of carbetocin[31].

Difference in excipients in the heat stable Carbetocin vs refrigeration formulation of carbetocin[32] is as follows in **Table no. 1**

| FUNCTION | Heat stable carbetocin | Carbetocin refrigerated formulation |
|---|---|---|
| Active substance | Carbetocin | Carbetocin |
| Solvent | Water for injection | Water for injection |
| Isotonicity agent | Mannitol | Sodium chloride |
| pH adjustment | Sodium hydroxide 2N | Glacial acetic acid |
| Buffer | Succinic acid | |
| Antioxidant | L Methionine | |

**Mechanism of action**

Carbetocin binds to the oxytocin receptors in the uterus and increases tone of the uterus by rhythmic uterine contractions[30].

**Pharmacokinetics**

Bioavailability when carbetocin is given intramuscularly is 80%

Half-life is forty minutes[29].

**Uses**

Heat stable Carbetocin is used for prevention of postpartum hemorrhage in AMTSL as per WHO recommendations[9]. Dose 100µg intramuscular which is equivalent to five IU of oxytocin.

**Contraindications**[27]

1. During pregnancy and labor before delivery of the newborn.
2. Carbetocin cannot be used for the induction of labour.
3. Hypersensitivity to carbetocin.
4. Hepatic or renal disease.
5. Serious cardiovascular disorders.
6. Epilepsy.

**Side effects**

Nausea, flushing, vomiting, hypotension and headache[8].

Due to its short half-life (4 to 10 minutes), it needs to be administered continuously or repeatedly. A prolonged uterine contraction is the outcome of administering carbetocin, a long-acting oxytocin agonist that has been produced more recently[33]. In a systematic review and meta-analysis of randomized controlled trials, heat stable Carbetocin is associated with reduced need for additional uterotonic agents, but no differences are noted for PPH, severe PPH, mean estimated blood loss, or adverse effects. Certain adverse effects, such as nausea, vomiting, or arterial hypotension that ultimately causes syncope or dizziness, have only been investigated as secondary outcomes of randomized controlled trials[34]. Given that heat stable carbetocin is an altered form of oxytocin, it is reasonable to assume that potential adverse effects may resemble each other. Hypotension, an important haemodynamic side-effect, has been described using both Oxytocin and Carbetocin . When

comparing Carbetocin with low dose Oxytocin, haemodynamic side effects seem to be comparable in both groups. No difference in hypotension has been noted between different doses from 20 to 100 μg of Carbetocin and generally hypotension is noted in 40 to 55%. Both Carbetocin and oxytocin are known to cause hypotension, certainly when administered in high doses for the prevention of PPH.

Injection Oxytocin and injection heat stable Carbetocin are used for postpartum bleeding, it is important to note that both medications are used to prevent PPH but only oxytocin can be used for treatment of PPH.

Studies have shown that both Oxytocin and Heat stable Carbetocin are effective in reducing postpartum bleeding, with Carbetocin potentially offering the advantage of requiring fewer doses due to its longer-lasting effects. However, the choice between the two medications may depend on various factors such as individual patient needs, availability, and cost[35].

The evidence from various studies and meta-analyses supports the effectiveness of heat stable carbetocin in reducing the need for additional uterotonics and postpartum hemorrhage, particularly during Caesarean sections. Heat stable Carbetocin has shown to be beneficial in reducing the risk of postpartum blood transfusion in women at increased risk of hemorrhage after Caesarean delivery[34].

The World Health Organization (WHO) has added heat stable Carbetocin, a uterotonic that is only advised for the prevention of PPH, to the core list of medications for reproductive health in the 2019 Model List of Essential Medicines[9]. All other injectable uterotonics (oxytocin, injectable prostaglandins, non-heat-stable formulation of Carbetocin, and ergometrine) need to be transported and stored at a

cool temperature (2–8°C) in order to stay stable and effective. Heat-stable Carbetocin overcomes the challenges of fragile cold chain infrastructure in struggling health systems. When used appropriately, heat-stable Carbetocin plays a critical role in resource-challenged and warm-climate settings, where cold chain transport and storage is often not available and the quality of oxytocin and other injectable uterotonics is compromised[31]. Carbetocin is also currently undergoing investigation for use as a PPH treatment in WHO's REACH trial[36].

**Clinical evidence for PPH prevention: oxytocin versus carbetocin (cesarean delivery).**

Therefore, it is anticipated that the inclusion of Carbetocin will be beneficial, and the requirement for a single medication administration will lessen the need for an intensive care unit, which is typically necessary after a cesarean delivery. Despite a statistically significant decrease in the need for additional uterotonics in the carbetocin group compared with oxytocin in women undergoing caesarean delivery, no statistically significant differences in terms of the risk of PPH were observed, according to a Cochrane review that included 11 studies. A meta-analysis conducted in 2018 compared the efficacy of carbetocin and oxytocin for preventing postpartum hemorrhage (PPH) in seven studies involving 2012 patients. The results showed that using carbetocin instead of oxytocin significantly reduced the rates of PPH (RR 0.79; 95% CI, 0.66–0.94, P = 0.009), the need for additional uterotonics (RR 0.57; 95% CI, 0.49–0.65, P < 0.001), and transfusion (RR 0.31; 95% CI, 0.15–0.64, P = 0.002). The difference in carbetocin and oxytocin costs, however, implies that before choosing to use carbetocin for routine prophylaxis, a locoregional cost-effectiveness analysis should be carried out, even with the possible advantages[37].

In 2020, sequential trial analysis of five randomized controlled trials containing information on 1214 women suffering non-elective cesarean births in which oxytocin and carbetocin were contrasted. When carbetocin was used instead of oxytocin, less uterotonics were required (OR 0.30; 95% CI, 0.11–0.86; I2, 90.60%). Trial sequential analysis (TSA) verified that more data was available than was required to demonstrate a discernible decrease in the requirement for additional uterotonics. Significant heterogeneity existed amongst the trials, however no significant differences were observed with regard to any of the secondary outcomes. The authors came to the conclusion that in order to ascertain an impact on PPH, more studies employing reliable core outcomes are required[38].

Nonetheless, primary prevention of a post-partum haemorrhage begins with the assessment of identifiable risk factors**.**

**PREVENTION OF PPH**

As the saying goes "prevention is better than cure'' is applied here as well.

To prevent it is always better to anticipate, be prepared and perform AMTSL.

AMTSL: Active management of third stage of labour[39]

Steps of AMTSL:

1. Administration of uterotonics after delivery of baby
2. Controlled cord traction
3. Uterine massage after delivery of placenta

The Bristol[40] and Hinchingbrooke[41] studies compared active versus expectant (physiologic) management of the third stage of labour The two trials unequivocally showed that the incidence of PPH was considerably lower (5.9% with AMTSL vs 17.9% with expectant management[40]; and 6.8% with AMTSL vs 16.5% without[41]) when active management was used.

- Administration of uterotonics after delivery of baby

  Oxytocin (10 IU, IV/IM) is the recommended uterotonic drug for the prevention of PPH. Within one minute of delivery of the baby ; administer Inj.Oxytocin 10 IU intramuscular.

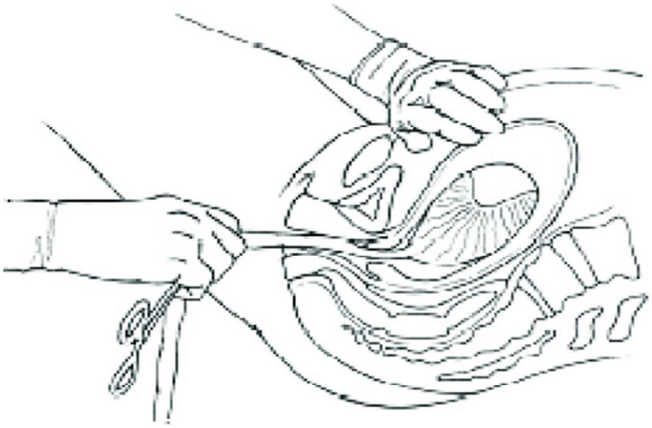
If first-line option that is oxytocin is unavailable, heat stable carbetocin (100 mcg IM/IV), methylergometrine (0.2 mg IV/IM), and misoprostol (800–1,000 mcg rectally or 600–800 mcg sublingually or orally) can be used.

- Controlled cord traction[27]

  -Clamp the cord

  - While doing controlled cord traction, position the other hand slightly over the woman's pelvic bone to support the uterus by delivering counterpressure.

  -Encourage the woman to push during the intense contractions in her uterus and gently pull down on the cord to deliver the placenta. Keep applying counterpressure to the uterus.



Controlled cord traction

***Figure No.4 Controlled Cord Traction***

- Uterine massage after delivery of placenta[27]

  -Immediately after expulsion of the placenta, massage the fundus of the uterus through the abdomen until the uterus is contracted.

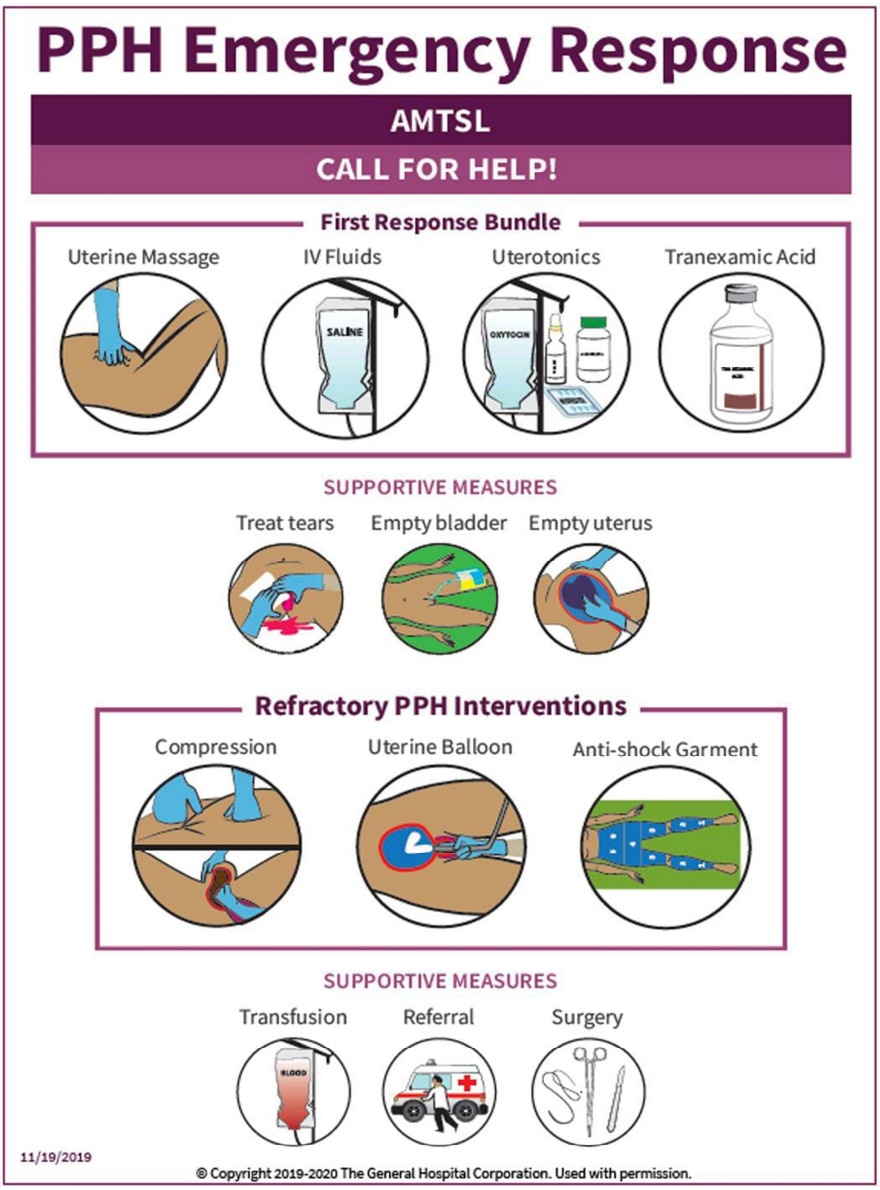



**Figure 5 : PPH Emergency Care Using A Bundle Approach[42] (PPH EmC).**

**OTHER STUDIES**

1. ***M. Widmer et al*** conducted a three-year (2015 – 2018) randomized, double blind non inferiority trial on a total of 29,645 women who underwent vaginal birth across ten countries where intramuscular injections of heat-stable Carbetocin (at a dose of 100 μg) vs oxytocin (at a dose of 10 IU) was administered immediately after vaginal birth. Two main outcomes were analysed: the percentage of women who either used additional uterotonic drugs or lost at least 500 millilitres of blood, and the proportion of women who lost at least 1000 millilitres of blood. For these two outcomes, the noninferiority margins were 1.16 and 1.23, respectively, indicating relative risks. It was found that the use of heat stable Carbetocin was noninferior to oxytocin for the prevention of postpartum haemorrhage of at least 500 ml with a 95% confidence interval (p value - <0.001). However, in cases with bleeding amounting to at least 1000ml, Carbetocin did not show significant non inferiority to oxytocin (p value – 0.03)[43].
2. In 2017, ***D. Mannaerts et al*** conducted a randomized controlled trial to assess the adverse effects and hemodynamic profile of heat stable Carbetocin versus oxytocin in the management of postpartum haemorrhage post caesarean section in 58 women. The control group was administered the normal dosage of oxytocin, which is 5 IU (International Units) of oxytocin in 10 ml of NaCl 0.9% over a period of three minutes, and then 10 IU of oxytocin in 1000 ml of crystalloid over a 24-hour period. The study group was given 10 ml of NaCl 0.9% containing 100 $\mu$g of heat-stable Carbetocin in a single dosage over three minutes, and then 1000 ml of crystalloid over the course of 24 hours. It was concluded that both the oxytocic drugs have a similar haemodynamic profile.

Nausea and vomiting were less commonly observed on using Carbetocin than oxytocin and Average blood loss was slightly lower in the Carbetocin group but not statistically significant ($p = 0.8$)[44].

3. ***Malm et al. (2018)*** conducted a study to develop a heat stable Carbetocin formulation for use in the low- and middle-income countries. The goal of this study was to characterize Ferring Pharmaceuticals' heat-stable Carbetocin formulation and examine its stability over a minimum of three years in ICH climate zone IV (30°C/75% relative humidity) and for shorter periods of time at higher temperatures, such as 60°C. A minor modification of this oxytocin analogue proved to be heat stable on further assessment. They concluded that the use of this analogue and its efficacy in prevention of post-partum haemorrhage is to be proved by further trials. Ferring Pharmaceuticals, the World Health Organization, and MSD for Mothers are working together to develop a heat-stable Carbetocin formulation for preventing postpartum hemorrhage in women after vaginal childbirth. The collaboration aims to make the medicine available in the public sector of developing countries with high maternal mortality burdens and difficulty in consistent refrigeration. As a part of this collaboration, the WHO is nearing completion of a randomized, double-blind non-inferiority trial comparing heat-stable Carbetocin to the standard intervention (oxytocin) for postpartum hemorrhage prevention[31].

4. ***A. M. Maged et al.*** performed a study in Cairo university, Egypt in 2015 on use of oxytocin vs Carbetocin in prevention of PPH after vaginal delivery in high-risk women. A prospective, double-blind, randomized study was conducted where 200 expectant mothers were divided into two groups where group 1 received a single 100 mg IM dosage of heat stable Carbetocin and Group 2 (100

women) received 5 IU of oxytocin IM. Risk factors included previous history of PPH, Primiparous >40 years of age, BMI >35, multiple pregnancies, prolonged labour >12 hours, and estimated fetal weight on USG>4kg. The aim of the study was to compare the effectiveness of both uterotonics in prevention of PPH after vaginal delivery in women with at least two high risk factors of atonic PPH. Using visual charts and weighing the swabs, the amount of blood lost was calculated. There was a statistically significant difference between the two study groups regarding the blood loss. The blood loss calculated was noted to be 337.73 ± 118.77 versus 378 ± 143.2 and occurrence of PPH (4 versus 16%) with Carbetocin group having the lower values. The need for other uterotonics was 23% in Carbetocin group vs 37% in oxytocin group. Hemoglobin difference between before and after delivery was 0.55 ± 0.35 versus 0.96 ± 0.62 in Carbetocin vs oxytocin group respectively. The study concluded that with comparable side effects and less hemodynamic shift than standard oxytocin, heat stable Carbetocin is a superior option for preventing postpartum hemorrhage (PPH) following vaginal delivery[45].

5. ***Theunissen et al***. conducted a review on current research on Carbetocin and implications for prevention of postpartum hemorrhage. The study was conducted in WHO international clinical trials registry platform. This research paper's goal is to highlight studies on heat-stable Carbetocin, a molecule that might be sufficiently structurally and clinically stable to be included to the list of suggested uterotonics for PPH prophylaxis. Three studies were analyzed for providing evidence required to include heat stable Carbetocin in the prevention of PPH in global recommendations. One of the studies were 1)Heat stable Carbetocin for preventing postpartum haemorrhage: a randomized non-

inferiority, controlled trial. The objective of the study was determine whether oxytocin (10 IU IM) and heat-stable Carbetocin (100 μg IM) are equally effective at preventing postpartum hemorrhage in women giving birth vaginally. 10 countries participated in the trial with a total of 29,658 participants. The WHO will have data to justify adding heat stable Carbetocin to its Recommendations for the Prevention and Treatment of PPH and the WHO Model List of Essential Medicines should this trial show that it is not inferior to oxytocin in preventing PPH. The trial is a component of a larger partnership between Ferring Pharmaceuticals, Merck for Mothers (MSD for Mothers outside the USA and Canada), and the World Health Organization (WHO) that involves advocacy, manufacturing, and regulatory activities. The goal of the partnership is to make heat-stable Carbetocin available in the public sector of low- and lower-middle-income countries at a sustainable and affordable price, subject to trial results. 2) Intramuscular oxytocics: a comparison study of intramuscular Carbetocin, syntocinon and syntometrine for the third stage of labour following vaginal delivery (IMox); Primary outcome of this study was to see the proportion of patients requiring additional uterotonic drugs after administration of study drug. Research on the use of carbetocin after cesarean sections has shown that it is useful in preventing postpartum hemorrhage (PPH) and has a safety and side-effect profile akin to that of oxytocin. There have been no studies that explicitly compare the three medications or look at their total costs. The researchers intended to enroll 6285 women by the end of 2018 at four maternity units in the United Kingdom. 3) Uterotonic agents for preventing postpartum hemorrhage: a network meta-analysis. The objective was to assess the clinical effectiveness and adverse-effect profile of uterotonic drugs to

prevent PPH and to generate a clinically useful ranking of available uterotonics according to their effectiveness and side-effects. Based on existing research, the analysis concluded that the combinations of ergometrine and oxytocin, Carbetocin, and misoprostol and oxytocin were the most efficient in preventing PPH ≥ 500 mL. The combination of ergometrine and oxytocin was the most successful in preventing PPH ≥ 1000 mL. Among the top three, Carbetocin showed the least adverse impact profile. The evidence for Carbetocin was derived from modest research. The study concludes that Carbetocin is being investigated as a potential alternative to oxytocin. The paper also suggest for an network meta-analysis ranking of all uterotonic agents.(Theunissen, Chinery, and Pujar 2018)[46].

6. ***Kalafat et al.*** conducted a study on the efficacy of Carbetocin for the prevention of PPH. This study includes 30 trials in the meta-analysis. In women having cesarean deliveries, Carbetocin was linked to a lower requirement for extra uterotonic usage than oxytocin (RR 0.43, 95% CI 0.30-0.59, I^2=71%, 3216 women, PP >99.9%). When using Carbetocin instead of oxytocin, women at high risk of postpartum hemorrhage (PPH) required less extra uterotonic usage (RR 0.56, 95% CI 0.34-0.94, I^2=38%, 789 women, PP=81.2%). In high-risk women undergoing a Cesarean delivery, the risk of postpartum blood transfusion (RR 0.57, 95% CI 0.33-0.96, I^2=0%, 1991 women, PP=97.9%) was likewise lower with Carbetocin than oxytocin. For both cesarean (RR0.69, 95% CI0.45-2.05, I^2=27%, 2926 women, PP=96.3%) and vaginal deliveries (RR0.61, 95% CI0.32-1.14, I^2=35%, 1515 women, PP=96.3%), the risk of PPH was comparable between Carbetocin and other uterotonic drugs. The review concludes that heat stable Carbetocin is effective in reducing the need

for additional uterotonic use and postpartum blood transfusion in women at increased risk of Postpartum hemorrhage undergoing cesarean delivery.(Kalafat et al. 2021)[47].

7. ***Su et al. (2012)*** conducted a comprehensive Cochrane review focusing on the efficacy of Carbetocin for preventing postpartum haemorrhage (PPH). This review included 11 randomized controlled trials (RCTs) with a total of 2635 women. The primary objective was to determine if heat stable Carbetocin was as effective as other uterotonic agents, particularly oxytocin, for the prevention of PPH following caesarean sections and vaginal deliveries. The results indicated that Carbetocin significantly reduced the need for additional uterotonic agents compared to oxytocin in caesarean sections. Specifically, the use of Carbetocin led to a statistically significant reduction in the need for therapeutic uterotonics (risk ratio [RR] 0.62; 95% confidence interval [CI] 0.44 to 0.88). However, the incidence of PPH (defined as blood loss greater than 500 ml) was not significantly different between the Carbetocin and oxytocin groups. The review also noted that Carbetocin was associated with fewer adverse effects, such as nausea and vomiting, compared to syntometrine. The authors concluded that while Carbetocin shows promise in reducing the need for additional uterotonics, further research is needed to analyse its cost-effectiveness and its efficacy in preventing severe PPH (blood loss greater than 1000 ml)[48].

8. ***Elbohoty et al. (2016)*** conducted a randomized controlled trial to compare the efficacy of heat stable Carbetocin and oxytocin in preventing PPH in women undergoing caesarean sections. The study included 200 women, with 100 in

each treatment group. The primary outcomes measured were the incidence of PPH, the need for additional uterotonic agents, and the requirement for blood transfusions. The findings showed that Carbetocin significantly reduced the incidence of PPH (6% in the Carbetocin group vs. 12% in the oxytocin group) and the need for additional uterotonics (8% vs. 20%, respectively). Furthermore, the requirement for blood transfusions was lower in the Carbetocin group (2%) compared to the Oxytocin group (5%). The study also reported fewer adverse effects with Carbetocin, such as nausea and vomiting, compared to oxytocin. The authors concluded that heat stable Carbetocin is a more effective and safer alternative to oxytocin for preventing PPH in cesarean sections, providing better control of uterine atony and reducing the need for additional interventions[49].

9. ***Whigham et al. (2016)*** conducted a double-blind randomized trial to compare Carbetocin and oxytocin in reducing additional uterotonic use during non-elective cesarean sections. The study included 112 women, with 59 receiving Carbetocin and 53 receiving Oxytocin. The primary outcome was the need for additional uterotonics, with secondary outcomes including the incidence of PPH, blood transfusions, and postpartum complications. The results showed that Carbetocin significantly reduced the need for additional uterotonics (13.21% in the Carbetocin group vs. 22.03% in the oxytocin group). However, the incidence of PPH was similar between the two groups (22.03% vs. 24.52%, respectively). The study also found no significant differences in the rates of blood transfusions and postpartum complications between the groups. The authors concluded that while heat stable Carbetocin effectively reduces the need for additional uterotonics, its impact on PPH incidence is comparable to that of oxytocin. They suggested that Carbetocin could be beneficial in clinical settings

where reducing the frequency of additional interventions is a priority, but further research is needed to confirm these findings and explore cost-effectiveness[50].

10. In 2017, In Anwar Khan Modern Medical college, Dhaka , Bangladesh, ***Farhad et al.*** decided to recruit 200 term patients undergoing elective or emergency LSCS in a double arm RCT where first arm was Inj Heat stable Carbetocin 100 mcg IV this was compared to women receiving Inj Oxytocin 10 IU IV. Aim of the study was o compare the effectiveness and safety of HSC over oxytocin in the active management of the 3rd stage of labour post c-section. This study came to results that suggested that Carbetocin was a good alternative to Oxytocin in management of third stage of labour in caesarean sections. Looking at the outcomes, PPH was noted in 8 % women who received Oxytocin compared to only 2% in the Carbetocin arm. Similarly, Additional uterotonics were needed in 10 percent of women receiving oxytocin, where only 2 % women needed it in the Carbetocin group. Immediate blood transfusion was needed more in the oxytocin arm. Interestingly, Fluid overload was noted in 8 % of patients in Oxytocin group, compared to none in HSC group[51].

11. ***Nahaer et al*** conducted a study in Rangpur Medical college, Bangladesh where 100 women with singleton pregnancies undergoing caesarean section were recruited to assess the efficacy and safety of heat stable Carbetocin vs oxytocin for prevention pof PPH in Caesarean section. They were divided into 2 groups where one group received heat stable Carbetocin 100 mcg IV versus other group which received inj Oxytocin 10 IU IM . As mentioned in prior studies, this study also looked for outcomes including Primary PPH, Massive blood loss and need for additional uterotonics. In this study too, heat stable Carbetocin was

ahead of oxytocin in all outcomes with no PPHs, no massive blood loss, 2% needed immediate blood transfusion and 4% patients needing additional uterotonics compared to the Oxytocin group where 8% patients experienced PPH, 6% had massive blood loss, 20% required blood transfusion immediately and 36 % required additional uterotonics[52].

12. ***Taheripanah et al*** in 2018 held a prospective double blinded randomized control trial in two arm in two hospitals in Tehran, Iran to compare the use HSC and oxytocin in prevention of PPH on LSCS. Inj HSC 100 mcg IV was given in 1st arm and Inj Oxytocin 30 IU IV infusion given in 2nd arm. The primary outcome of the study was PPH estimation, hemoglobin drop estimation, need for additional uterotonic drugs. In the 220 term pregnant women who required emergency LSCS, haemoglobin drop was noted to be 1.01 vs 2.05 in Carbetocin vs oxytocin group with a significant p value of <0.01). Mean blood loss was 430.68 ml vs 552.6 ml in Carbetocin vs oxytocin group with a p-value of <0.001, Uterine massage frequency was 3.7 vs 4.26 in Carbetocin vs oxytocin and noted to be fairer in the Carbetocin arm. Pruritis was noted more in the HSC arm which was seen in 27% patients. It was thus concluded in this study too that heat stable Carbetocin is a good alternative for oxytocin and further studies to be done to analyse cost- effectiveness[53].

13. ***Akhtar et al*** conducted a study in Shaheed Suhrawardy medical college hospital, Dhaka, Bangladesh during 2016 to analyse the outcome of third stage of labour using heat stable Carbetocin following vaginal delivery. Prior to placental removal, a pre-weighted sanitary pad was utilized to assess blood loss using a standardized deliver mat called Quaiyum's mat.100 women undergoing vaginal delivery were the study participants and received a bolus of 100

microgram Carbetocin IV at delivery of the anterior shoulder. In this study, 76 (76.0%) patients had spontaneous delivery, 05 (5.0%) patients had massive blood loss, and 10 (10.0%) patients required further uterine massage. The study concluded that it is more efficient to administer a single dosage of 100 mg of IV Carbetocin to maintain appropriate uterine tone[54].

14. ***Maged et al*** *conducted* a study in 2019 on Carbetocin vs rectal misoprostol for management of third stage of labour among women with low risk of postpartum hemorrhage in Egypt. 150 participants with low risk for PPH were admitted for vaginal delivery and assigned to two groups one receiving heat stable Carbetocin 100mcg intravenously and other group receiving 800mcg of misoprostol per rectally for the active management of third stage of labour. The aim of the study is to compare the effectiveness and adverse effects between Carbetocin and misoprostol to prevent PPH during vaginal delivery in low risk women. The results were as follows significantly reduced blood loss (P<0.001), a shorter third stage (P<0.001), and a lower demand for extra uterotonics (P=0.013) and uterine massage (P=0.007) were observed in the Carbetocin group. The two medications were safe for hemodynamics. Following delivery, the two groups' hemoglobin levels were similar (P=0.475).The study concluded that Carbetocin seems a better alternative to misoprostol as it reduced the need for additional uterotonics[55].

# MATERIALS AND METHODS

**Method of collection of data**

**Study design:** A Prospective Randomized Controlled Trial.

**Study setting:** KAHERS' Dr. Prabhakar Kore Charitable Hospital and Medical Research Centre, Belagavi.

**Study duration:** 12 months

**Study period:** April 2023 to May 2024

**Study population:** Women undergoing caesarean sections according to inclusion criteria at KAHER'S Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi.

**Selection Criteria**

**Inclusion criteria:**

1. Women >18 years of age
2. Singleton
3. Caesarean section at >= 37 weeks period of gestation
4. Consenting to participate in the study

**Exclusion Criteria:**

Women with history of-

1. Cardiac Disorders
2. Epilepsy disorder
3. Renal disorders
4. Liver disease
5. Previously known hypersensitivity to Inj Carbetocin
6. Women unwilling to consent for the study

**Ethical Clearance**

Ethics committee approval was obtained from the JNMC Institutional Ethics Committee on Human Subjects Research on 11th Nov 2022. (Annexure 1)

The trial is registered under CTRI/2023/06/054091.

**Sample size**

The formula used for sample size calculation is,

$$n = \frac{2\left(Z_{1-\frac{\propto}{2*k}} + Z_{1-\beta}\right)^2}{f^2}$$

$$where, f = \left(\frac{\min(|\mu_i - \mu_j|}{\sigma}\right)$$

where, $\mu_i$ is mean of $i^{th}$ group, $\mu_j$ is mean of $j^{th}$ group, $\sigma^2$ is the common error variance, $Z_{1-\frac{\propto}{2*k}}$ is Z score adjusted for α level of significance (Bonferroni Correction),

k is the number of pairwise comparisons and $Z_{1-\beta}$ value is Z score for (1-β) % power.

We have 2 groups i.e. Inj. Oxytocin 10 IU I.M and Inj. Carbetocin

100mcg i.m .

Assuming that the blood loss between group effect size

to be 0.5, at 5% level of significance, and 85% power, the sample size is

obtained to be 73 subjects per group. Hence, total sample size required is

73 x 2 = **146** subjects**.** As sample size increases, accuracy of result also

increases.

**METHODOLOGY**

**Sampling procedure :-**

Patients admitted to KAHERS Dr. Prabhakar Kore Charitable Hospital and Medical Research Centre, Belagavi at 37 weeks of gestation and beyond, and undergoing caesarean sections were included in the study.

Convenient sampling.

**Screening**:

Participants were screened according to the inclusion criteria of the study. Those meeting inclusion criteria were considered for recruitment in the study. Each participant was assigned a screening number and a participant information number.

**Consent**: Written, informed consent taken from all the participants when decision is taken for caesarean section.

**Randomization**: Patients classified into two groups by computer-generated randomization system.

Randomization list was concealed and expressed by sequentially numbered, sealed opaque envelopes just prior to intervention. Each patient allocated to Group (A) or Group (B).

**Blinding**: The study was single blinded.

-The participants were blinded to the allocation group.

-The anaesthetist and surgeon were not blinded to the study. This allows detection of adverse drug reactions after administration. This allows for the informed decision for use of additional uterotonics if required.

**Intervention**: Group A received Inj. Heat stable Carbetocin 100mcg i.m after delivery of the baby and within 1-3 mins of clamping of the cord.

Group B received Inj.Oxytocin 10 IU im after delivery of the baby and within 1-3 mins of clamping of the cord.

**Data collection**: The following details were recorded in the proforma

- Participant information: Age, Address
- Height, Weight, BMI
- Obstetric history: Date of last menstrual period (LMP), Expected date of delivery (EDD), Gestational age at enrolment, Obstetric score
- Indication for the caesarean section

Uterotonic agents used.

- Additional interventions done to control bleeding (surgical & medical)
- Post operative complications

The details of the patient and obstetric history were recorded at the time of admission. Patients were followed up till the date of discharge.

**Blood loss was calculated by visual estimation method.**

Mops and suction apparatus.

1 fully soaked mop measuring 30cm x 30 cm is equated to 30ml of blood[21].

Suction apparatus has the graded markings and is measured accordingly.

Immediately after suctioning of amniotic fluid and baby is delivered the suction apparatus is connected separately for measurement of blood only.

A total of mops and suction bottle is added and measured.

**Figure No 6: Suction Apparatus And Mop.**

Data regarding operative procedure and need for additional uterotonics was taken from the operative notes. Additional surgical and medical interventions done to control bleeding were recorded from the case sheets. Maternal condition and details of maternal morbidity or mortality was also noted.

**Investigations**: Pre and post op hemoglobin and hematocrit were recorded.

Preoperative hemoglobin and hematocrit were the most recent values within one week before delivery.

On postoperative day 2 or within 48 hours of delivery, postoperative hemoglobin and hematocrit values were measured.

Both Hemoglobin and hematocrit are measured using automated analysers.

Incidence of PPH was defined by a calculated blood loss of >1000ml to be compared between the two groups.

**Statistical analysis**

Data is analysed using statistical software R version 4.4.0 and Microsoft Excel. Categorical variables given in the form of frequency tables.

Continuous variables given in Mean ± SD / Median (Min, Max) form.

Chi square test is used to check the association of categorical variables with intervention group. Normality of variable is checked by Shapiro Wilk test.

Data did not follow normal distribution. Mann Whitney U test is used to compare the distribution of variables over intervention group.

Wilcoxon test is used to compare the distribution of variables over timepoints. P-value less than or equal to 0.05 indicates statistical significance.

# RESULTS

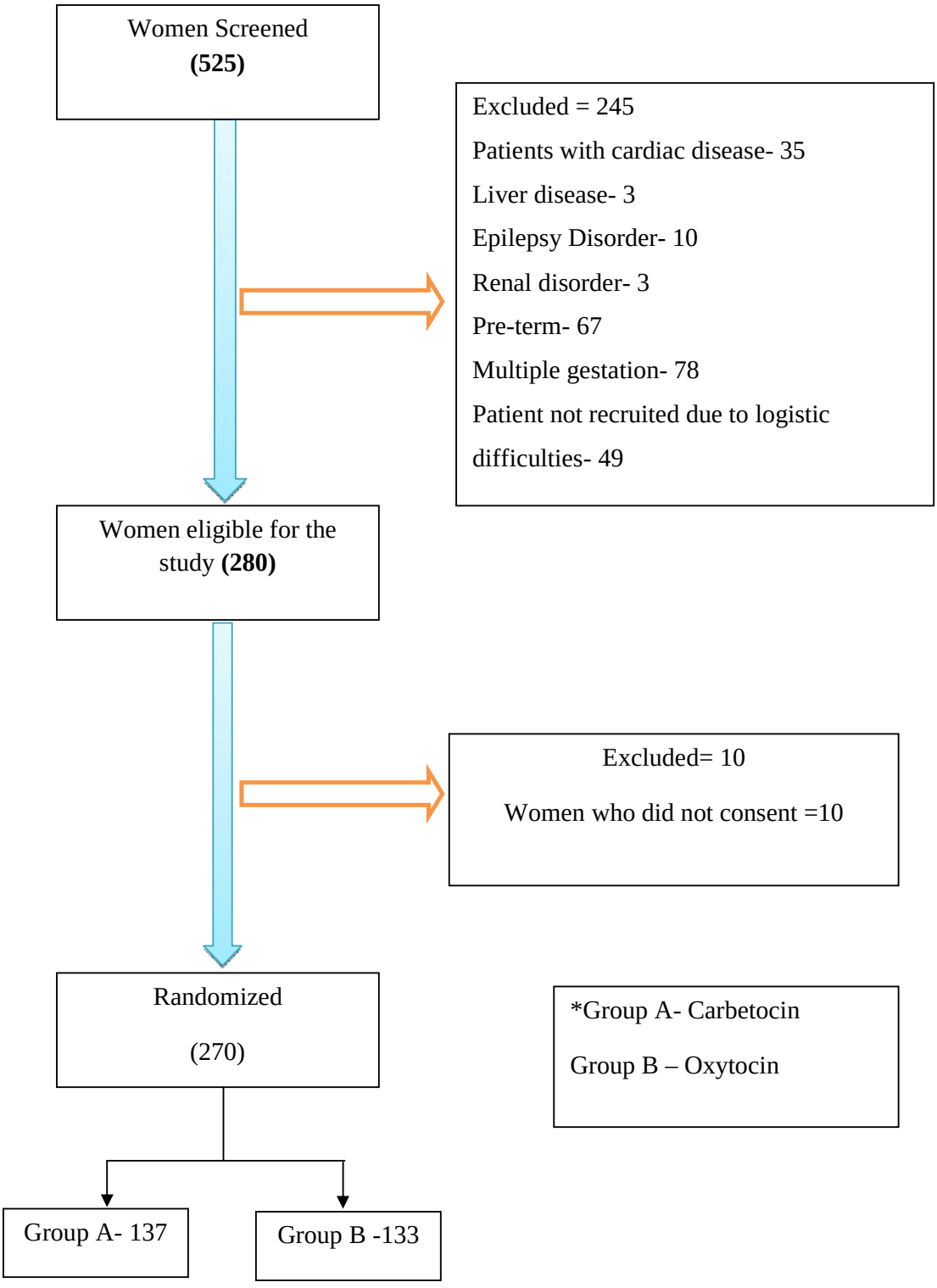
This study was done at KAHERS Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi over a period of 12 months from April 2023 to May 2024.

Total number of caesarean sections during the study period was 1684. Due to logistic difficulties a total of 525 women were screened, 245 were excluded as they did not meet the inclusion criteria or were ineligible as they met one of the exclusion criteria.

280 women were eligible for the study, out of which 10 patients did not give consent hence 270 patients were randomized and recruited in the study.

A total of 270 women were randomized into a group A (137) and group B (133).

**FIGURE 7: CONSORT DIAGRAM**



## CHARACTERISTICS OF STUDY PARTICIPANTS

**TABLE 2:- Age Distribution**

| Variables | Subcategory | Group A (N=137) | Group B (N=133) | Total (N=270) | p-value |
|---|---|---|---|---|---|
| Age (years) | Median | 26 | 26 | 26 | 0.4615 [MW] |
| | Range | (18-39) | (18-37) | (18-39) | |
| | Mean ±SD | 26.35 ± 4.19 | 25.97 ± 4.24 | 26.16 ± 4.21 | |

*Abbreviation: MW – Mann Whitney U test.*

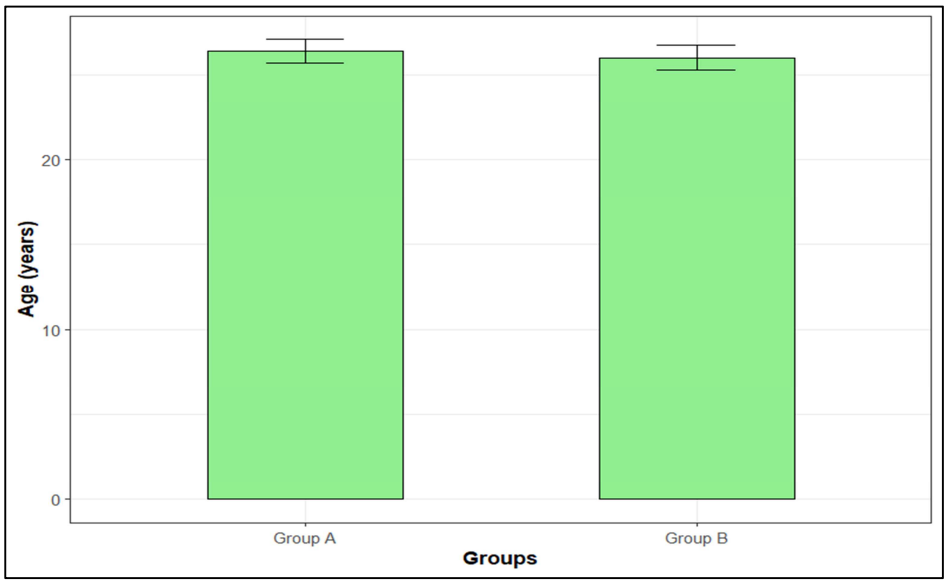



**Figure 8: Mean plot of age over groups.**

The mean age in Group A is 26.35 ± 4.19 years with a median of 26 years (range: 18 to 39). For Group B, the mean age is slightly lower at 25.97 ± 4.24 years with a median of 26 years (range: 18 to 37). From Mann Whitney U test, it is observed that, there is no statistically significant difference in the distribution of age over groups (p-value = 0.4615).

**TABLE 3: Case distribution of Registered Vs Unregistered.**

| Registration status | Number of subjects (%) |
|---|---|
| Registered | 186 (68.89%) |
| Unregistered | 84 (31.11%) |

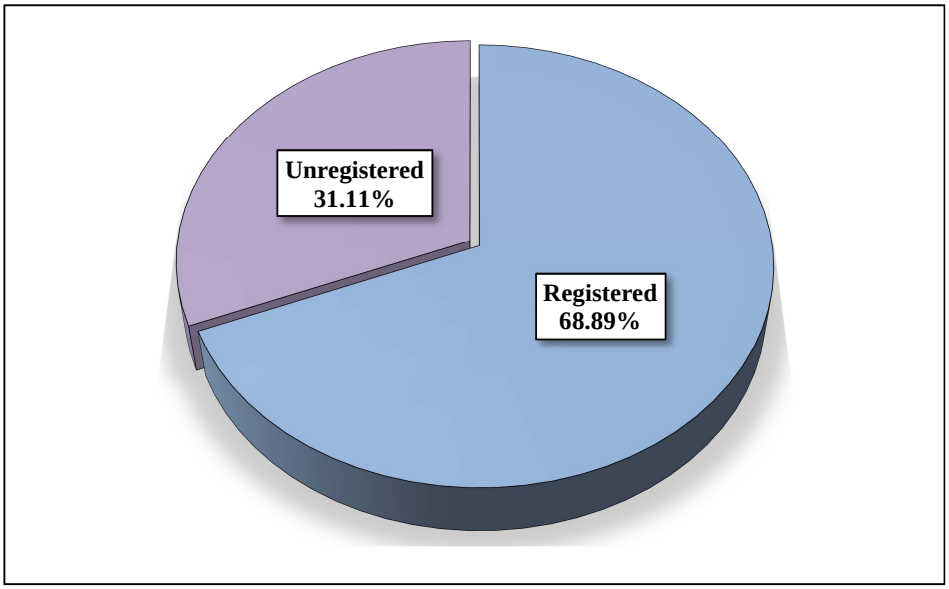



**Figure 9: Distribution of subjects according to registration status**

Out of 270 subjects, 186 (68.89%) have registered, while 84 (31.11%) have not.

**Table 4: Gestational age distribution**

| Variables | Subcategory | Group A (N=137) | Group B (N=133) | Total (N=270) | p-value |
|---|---|---|---|---|---|
| Gestational Age (weeks) | Median | 38.5 | 39 | 38.6 | $0.1277^{MW}$ |
| | Range | 29.4 – 41.6 | 34.2 -41 | 29.4 – 42 | |
| | Mean ±SD | 38.4 ± 1.48 | 38.6 ± 1.26 | 38.6 ± 1.38 | |

*Abbreviation: MW – Mann Whitney U test.*

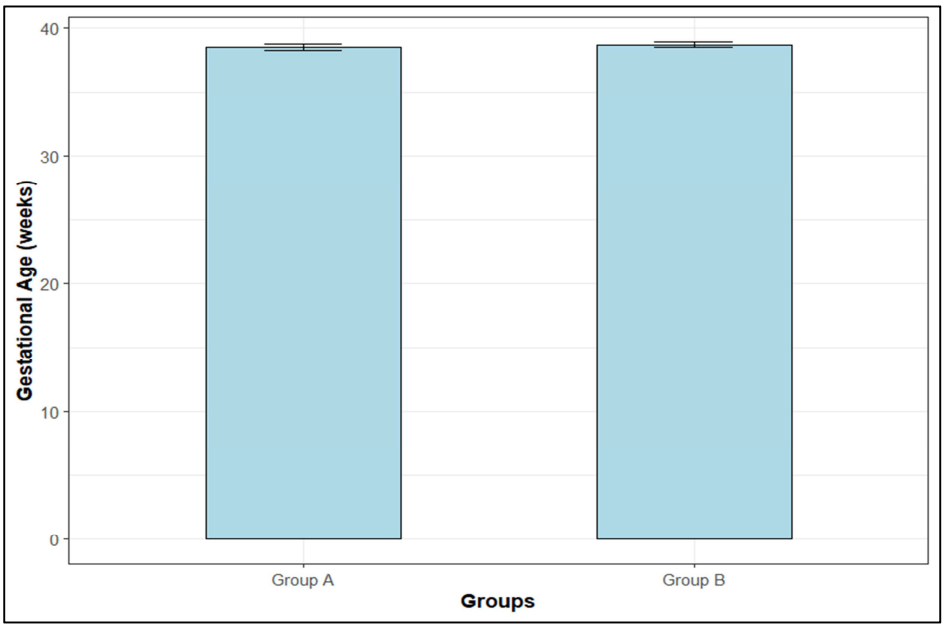



**Figure 10: Mean plot of gestational age over groups.**

Regarding gestational age at delivery, the mean gestational age in Group A is 38.48 ± 1.48 weeks with a median of 38.57 weeks (range: 29.43 to 41.71 weeks). In Group B, the mean gestational age is slightly higher at 38.72 ± 1.26 weeks with a median of 38.86 weeks (range: 34.29 to 40.86 weeks). From Mann-Whitney U test, the difference in gestational age at delivery between the two groups is not statistically significant (p-value = 0.1277).

**Table 5: BMI Distribution**

| Variables | Subcategory | Group A (N=137) | Group B (N=133) | Total (N=270) | p-value |
|---|---|---|---|---|---|
| BMI ($kg/m^2$) | Median | 25.5 | 25.6 | 25.6 | $0.9130^{MW}$ |
| | Range | (21-34) | (20-34) | (20,34) | |
| | Mean ±SD | 25.77 ± 2.44 | 25.66 ±2.57 | 25.72 ± 2.5 | |

*Abbreviation: MW – Mann Whitney U test.*

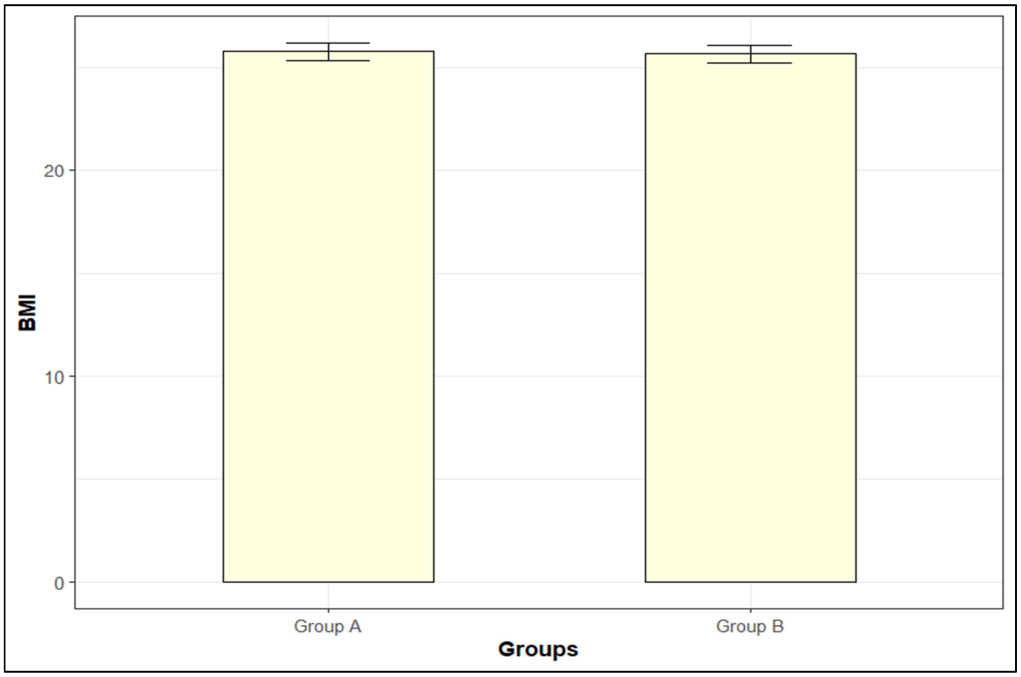



**Figure 11: Mean plot of BMI over groups**

The mean BMI in Group A is 25.77 ± 2.44 with a median of 25.5 (range: 21 to 34). For Group B, the mean BMI is slightly lower at 25.66 ± 2.57 with a median of 25.6 (range: 20 to 34). From Mann Whitney U test, it is observed that, there is no statistically significant difference in the distribution of BMI over groups (p-value = 0.9130).

**Table 6: Gravidity Distribution**

| Variables | Subcategory | Group A (N=137) | Group B (N=133) | Total (N=270) | p-value |
|---|---|---|---|---|---|
| Gravidity | Primigravida | 50 (36.5%) | 63 (47.37%) | 113 (41.85%) | 0.0702[C] |
| | Multigravida | 87 (63.5%) | 70 (52.63%) | 157 (58.15%) | |

*Abbreviation: C – Chi square test,*

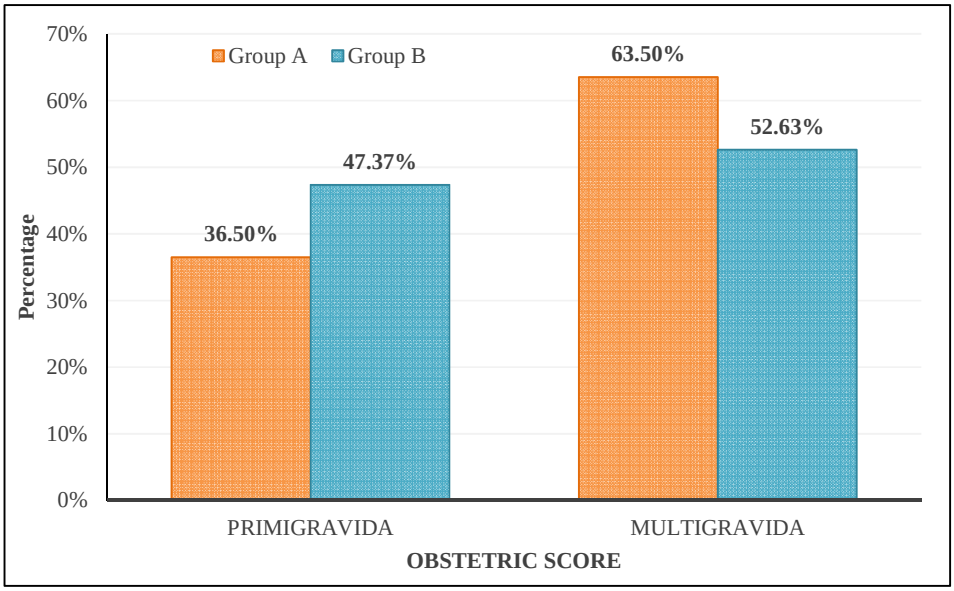



**Figure 12: Distribution of obstetric score over groups.**

In terms of obstetric score, 36.5% of participants in Group A are primigravida compared to 47.37% in Group B, while 63.5% in Group A are multigravida compared to 52.63% in Group B. However, from Chi square test, it is observed that, there is no statistically significant difference in obstetric score over groups (p-value = 0.0702).

**Table 7: Distribution Of Participants Over Indications For Lscs**

| Indication for LSCS | Group A (n=137) | Group B (n=133) | Total (n=270) |
|---|---|---|---|
| Fetal distress / CTG changes | 32 | 33 | 65 |
| Previous LSCS | 51 | 41 | 92 |
| CDMR | 8 | 10 | 18 |
| Placenta previa | 2 | 1 | 3 |
| CPD | 8 | 7 | 15 |
| Severe PE/eclampsia | 4 | 1 | 5 |
| Abruptio placenta | 2 | 0 | 2 |
| Anamnios/Severe Oligohydramnios | 7 | 11 | 18 |
| Breech | 5 | 7 | 12 |
| Chorioamnionitis | 0 | 1 | 1 |
| Cord prolapse | 1 | 2 | 3 |
| Deep Transverse Arrest | 1 | 0 | 1 |
| Failed Induction | 10 | 12 | 22 |
| Macrosomia | 2 | 0 | 2 |
| Prolonged PROM | 4 | 6 | 10 |
| Transverse Lie | 0 | 1 | 1 |

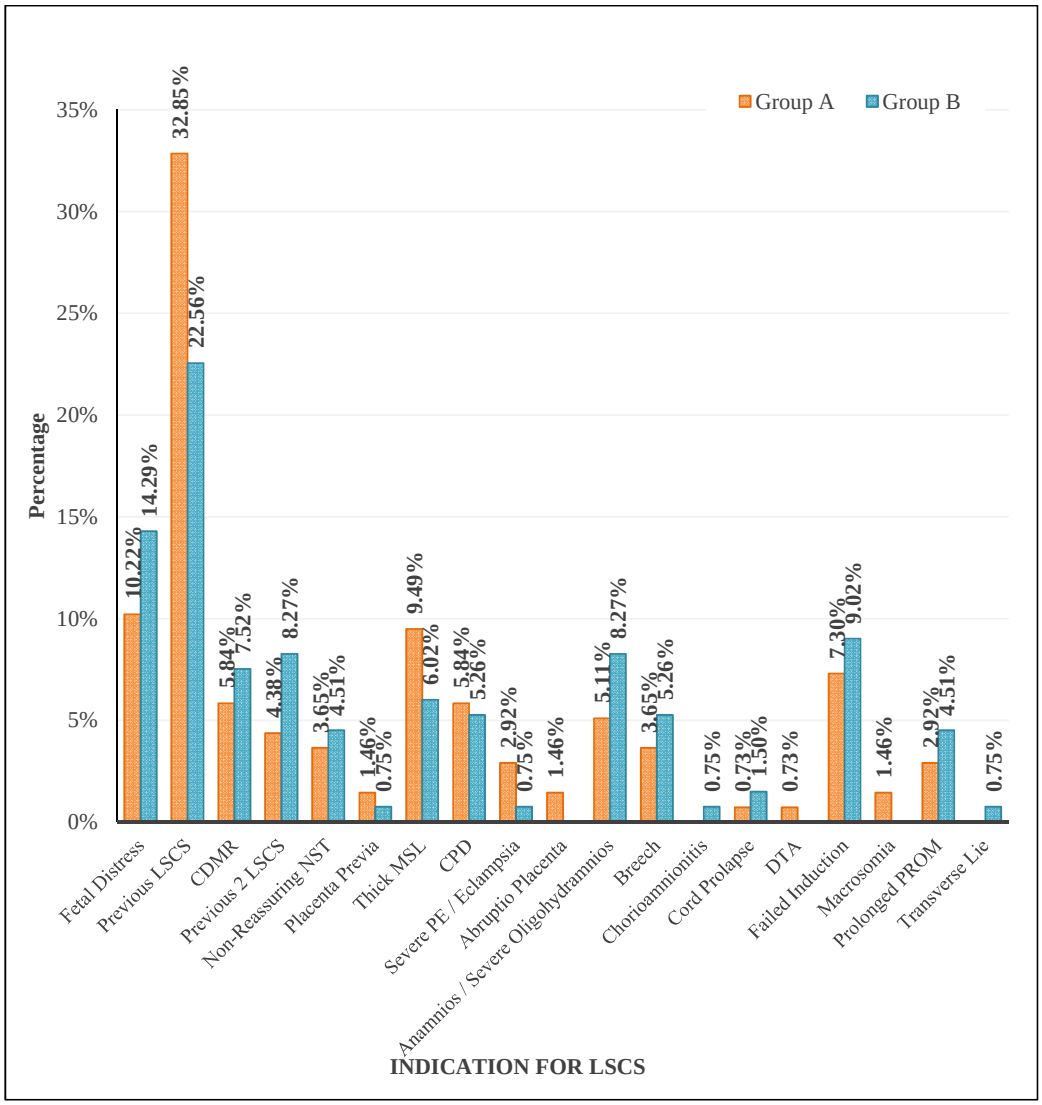



**Figure 13: Distribution of indication for LSCS over groups.**

In Group A, which consisted of 137 cases, the most common indications included previous LSCS (32.85%), followed by fetal distress (10.22%), thick MSL (9.49%) and failed induction (7.3%). Other significant indications were anamnios/severe oligohydramnios (5.11%). Group B, comprising 133 cases, showed a higher prevalence of previous LSCS (22.56%) and fetal distress (14.29%) along with notable occurrences of anamnios/severe oligohydramnios (8.27%) and CDMR (7.52%).

**Table 8: distribution of participants over risk factors for pph.**

| Variables | Group A (n = 137) | Group B (n =133) | Total (n =270) | p-value |
|---|---|---|---|---|
| Obesity | 4 (2.9%) | 1 (0.75%) | 5 (1.85%) | $0.3873^{MC}$ |
| Multiparity | 5 (3.6%) | 6 (4.51%) | 11 (4.07%) | $0.7203^{C}$ |
| Chronic HTN | 5 (3.6%) | 3 (2.26%) | 8 (2.96%) | $0.7396^{MC}$ |
| Gestational HTN | 13 (9.4%) | 15 (11.28%) | 28 (10.37%) | $0.6297^{C}$ |
| Pre-eclampsia | 3 (2.19%) | 1 (0.75%) | 4 (1.48%) | $0.6237^{MC}$ |
| Eclampsia | 1 (0.729%) | 0 | 1 (0.37%) | $0.9999^{MC}$ |
| Anaemia | 14 (10.21%) | 17 (12.78%) | 31 (11.48%) | $0.5090^{C}$ |
| Antepartum hemorrhage | 4 (2.9%) | 1(0.75%) | 6(2.224%) | $0.3873^{MC}$ |
| Macrosomia | 2 (1.4%) | 0 | 2 (0.74%) | $0.5072^{MC}$ |
| Chorioamnionitis | 0 | 1 (0.75%) | 1 (0.37%) | $0.5052^{MC}$ |
| Total | 51(37.2%) | 45(33.8%) | 96(35.5%) | $0.1782^{MC}$ |

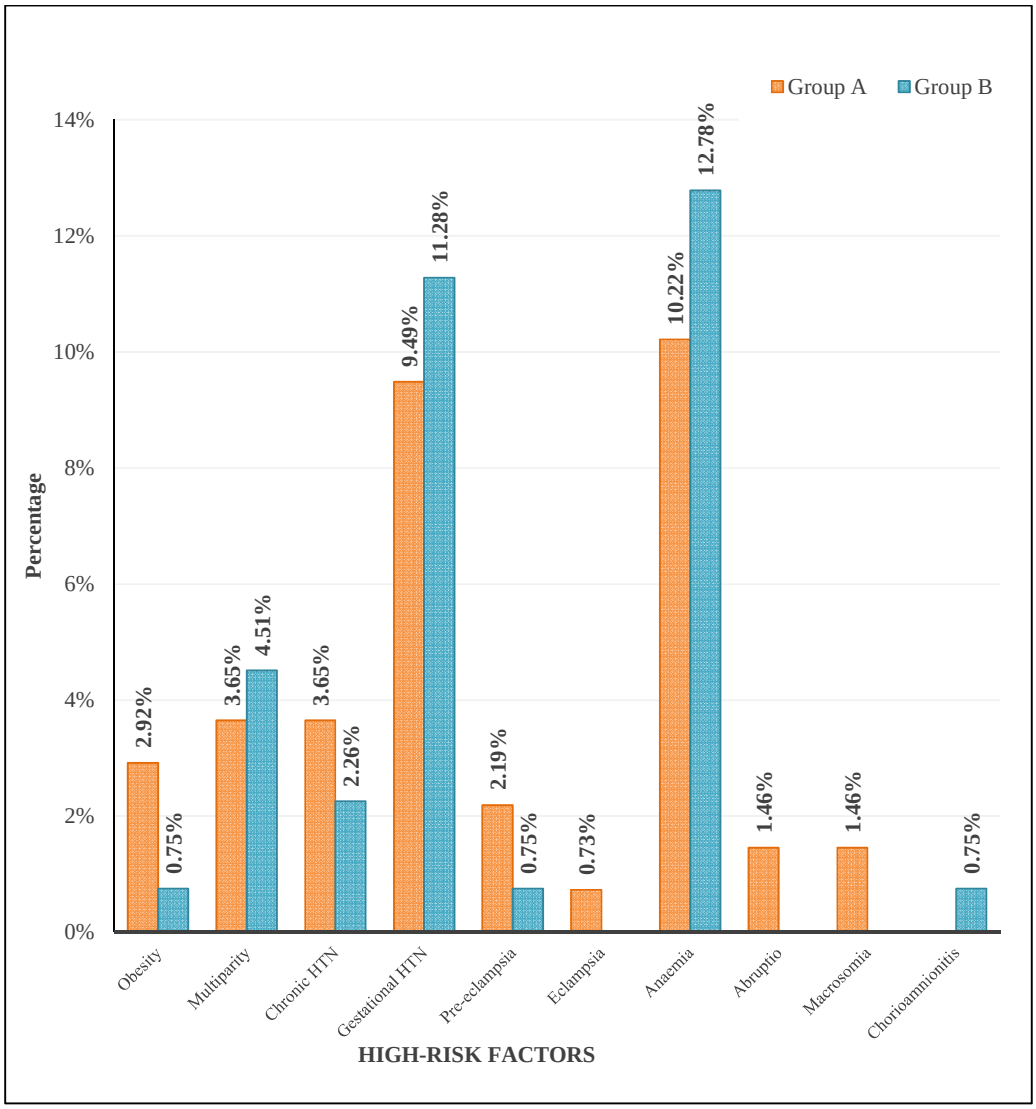



**Figure 14: Distribution of high-risk factors over groups.**

In Group A, obesity was reported in 2.92% of participants, whereas in Group B it was 0.75%. Multiparity was observed in 3.65% of Group A compared to 4.51% of Group B.

Chronic hypertension (HTN) affected 3.65% of Group A and 2.26% of Group B.

Gestational hypertension was reported in 9.49% of Group A and 11.28% of Group B.

Pre-eclampsia was present in 2.19% of Group A and 0.75% of Group B.

Eclampsia was observed in 0.73% of Group A and none in Group B.

Anemia was found in 10.22% of Group A and 12.78% of Group B.

Antepartum hemorrhage was present in 2.9% of Group A and 0.75% in Group B.

Macrosomia was reported in 1.46% of Group A and none in Group B.

Chorioamnionitis was observed in none of Group A but in 0.75% of Group B.

From Chi square test, it is observed that there is no significant difference in the distribution of high-risk factors over groups (p-values > 0.05).

This is suggestive that there are no confounding factors between both the groups.

**Table 9: Distribution Based On Blood Loss**

| Variable | Subcategory | Group A (n = 137) | Group B (n =133) | Total (n =270) | p-value |
|---|---|---|---|---|---|
| Blood loss | <500 | 109 (79.56%) | 88(66.17%) | 197 (72.96%) | **0.0132[C]*** |
| | 500-1000 | 27(19.71%) | 45 (33.83%) | 72 (26.67%) | **0.0087[C]*** |
| | 1000-1500 | 1(0.73%) | 0 | 1 (0.37%) | 0.9999[MC] |

*Abbreviation: C – Chi square test, MC – Chi square test with Monte Carlo simulation, MW –Mann Whitney U test, * indicates statistical significance.*

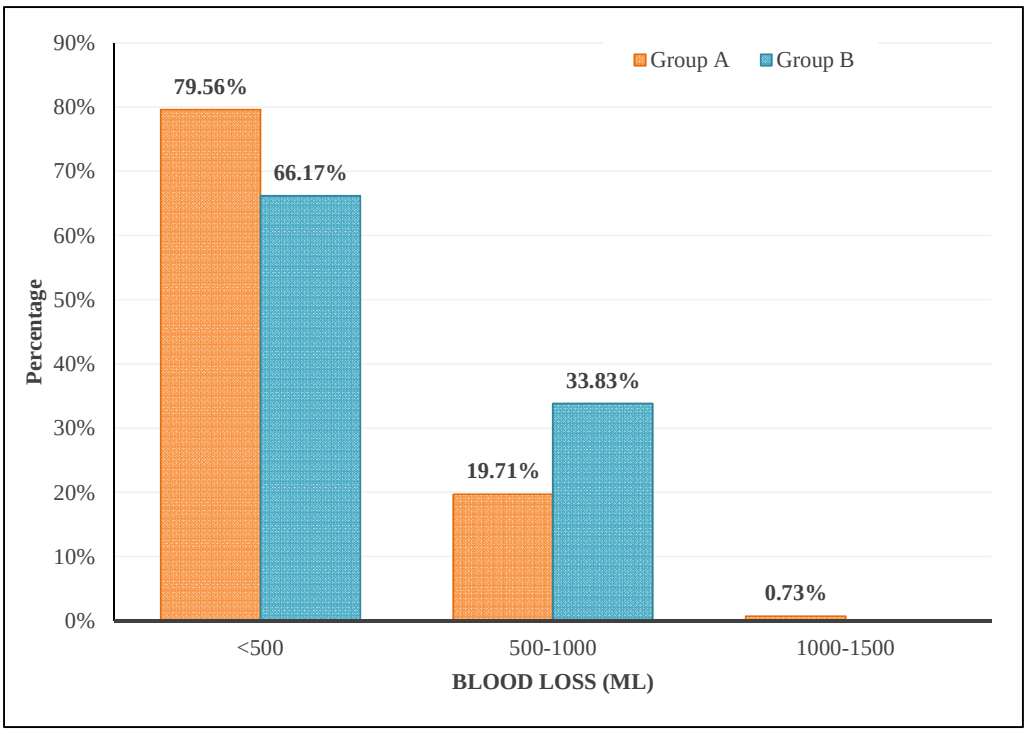



**Figure 15: Distribution of blood loss over groups**

In Group A, the majority of participants (79.56%) experienced blood loss of less than 500 ml, compared to 66.17% in Group B. From Chi square test, it is observed that this difference is statistically significant (p-value = 0.0132). Conversely, blood loss between 500-1000 ml was more common in Group B (33.83%) than in Group A (19.71%). From Chi square test, it is observed that this difference is statistically significant (p-value = 0.0087). Only one participant in Group A experienced blood loss between 1000-1500 ml, while no participants in Group B fell into this category. From Chi square test it is observed that, there is no significant difference in the distribution of blood loss 1000-1500 over groups (p-value = 0.9999).

**Table 10: Mean Blood Loss**

| Variable | Subcategory | Group A N=137 | Group B N=133 | p- value |
|---|---|---|---|---|
| Blood loss | Mean+/-SD | 398 ± 177.74 | 432.78 ± 122.26 | < **0.001**$^{MW}$***** |

*Abbreviation- Mann Whitney U test, * indicates statistical significance.*

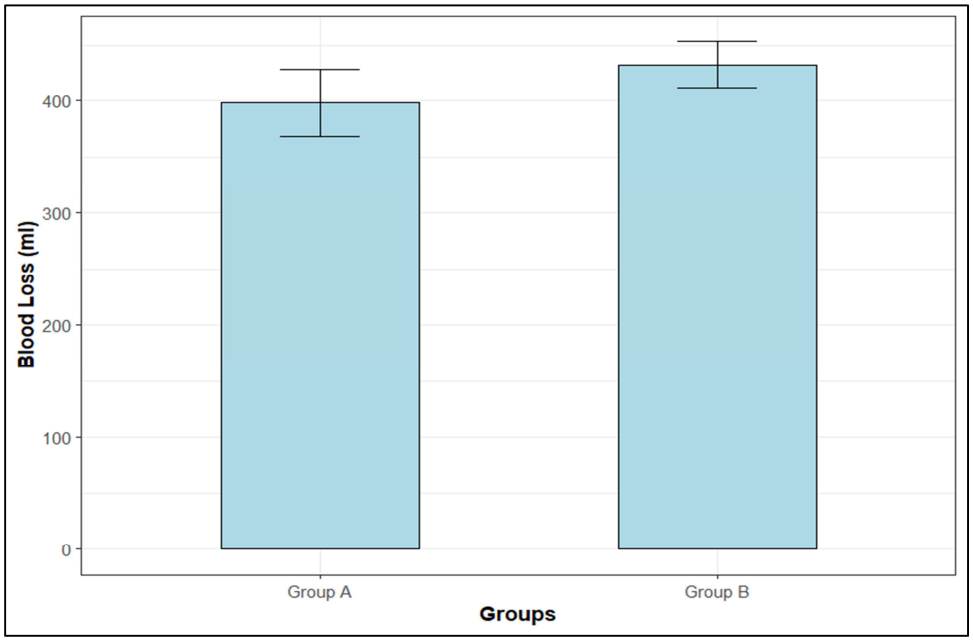



**Figure 16: Mean plot of blood loss over groups.**

Group A had a mean blood loss of 398.32 ± 177.74 ml with a median of 350 ml (range: 200 to 2000 ml). Group B had a higher mean blood loss of 432.78 ± 122.26 ml with a median of 420 ml (range: 200 to 800 ml). From Mann-Whitney U test, it is observed that, there is significant difference in the distribution of blood loss over groups (p-value < 0.001) indicating Group B experiencing higher blood loss on average.

**Table 11: Distribution of cases requiring blood transfusion**

| Variables | Group A (N=137) | Group B (N=133) | Total (N=270) | p-value |
|---|---|---|---|---|
| Need for blood transfusion | 8<br>-5.84% | 12<br>-9.02% | 20<br>-7.41% | 0.3180[C] |

*Abbreviation: C – Chi square test*

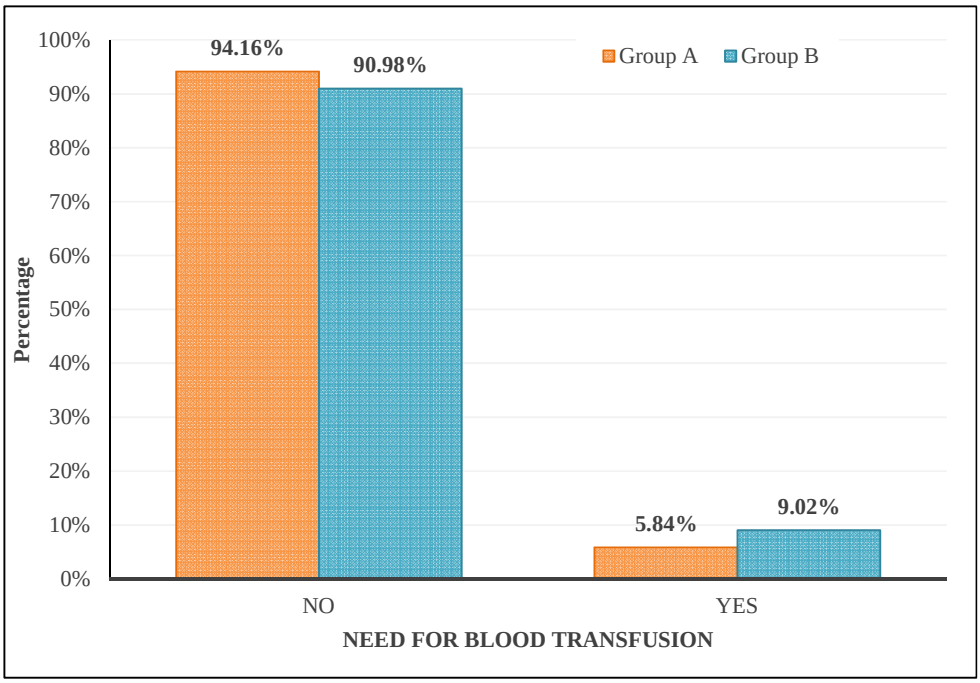



**Figure 17: Distribution of cases requiring blood transfusion**

Regarding the need for blood transfusion, 8 (5.84%) participants in Group A required a transfusion compared to 12(9.02%) in Group B. However, from Chi square test, it is observed that the difference was not statistically significant (p-value = 0.3180). A total of 20 participants required blood transfusion.

**Table 12: Comparison Of Additional Uterotonics Between The Two Groups**

| Additional Uterotonics | Group A (n = 137) | Group B (n =133) | Total (n =270) | p-value |
|---|---|---|---|---|
| INJ.METHERGINE 0.2MG IM/IV | 31 (22.63%) | 28 (21.05%) | 59 (21.85%) | |
| INJ.OXYTOCIN | 32 (23.36%) | 42 (31.58%) | 74 (27.41%) | |
| TAB MISOPROSTOL | 20 (14.6%) | 17 (12.78%) | 37 (13.7%) | |
| INJ.PROSTADIN 250MCG IM | 9 (6.57%) | 6 (4.51%) | 15 (5.56%) | |
| Total | 92 (67.15%) | 93 (69.92%) | 185 (68.52%) | 0.6240[C] |

*Abbreviation: C – Chi square test.*

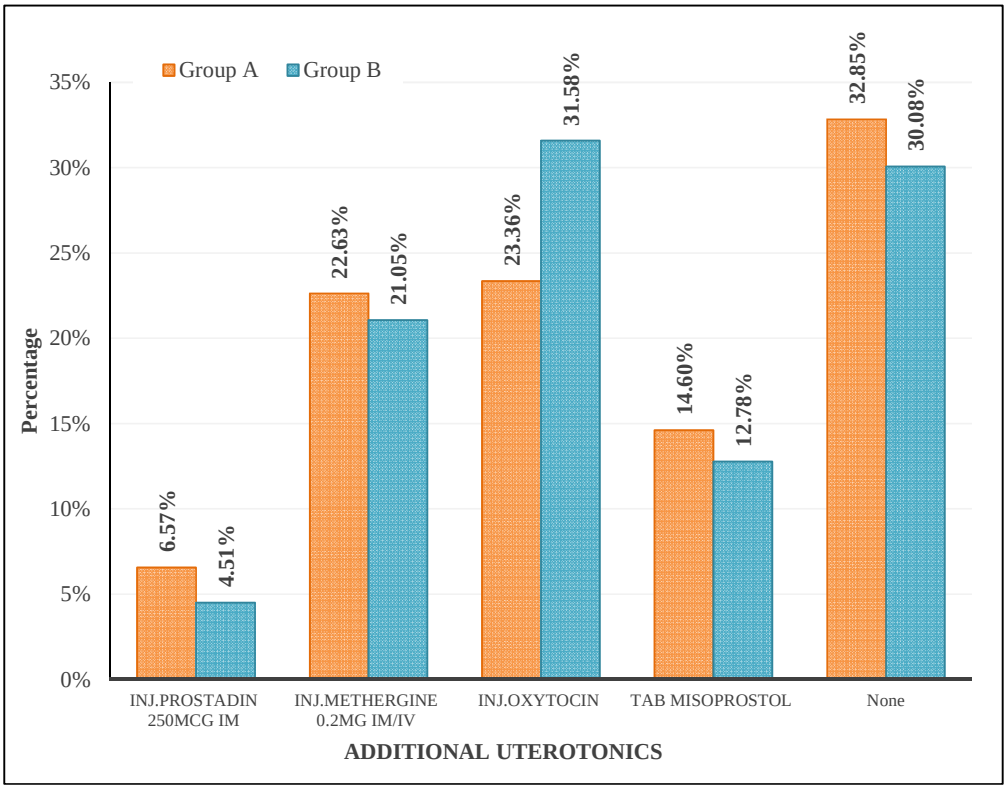



**Figure 18: Distribution of additional uterotonics over groups.**

In Group A, 67.15% of patients required additional uterotonics, while in Group B, a slightly higher percentage of 69.92% needed them. Conversely, 32.85% of patients in Group A and 30.08% in Group B did not need additional uterotonics. From Chi square test, it is observed that, there is no significant difference in the distribution of use of additional uterotonics over groups (p-value = 0.6240).

The use of INJ. OXYTOCIN was more common in Group B (31.58%) compared to Group A (23.36%).

Similarly, the use of INJ. METHERGINE 0.2MG IM/IV was nearly the same in both groups, with 22.63% in Group A and 21.05% in Group B.

The use of INJ. PROSTADIN 250MCG IM was slightly higher in Group A (6.57%) compared to Group B (4.51%).

Lastly, the use of TAB MISOPROSTOL was 14.6% in Group A and 12.78% in Group B.

**Table 13: Comparison of use of additional surgical intervention over groups.**

| Additional surgical intervention | Group A (n = 137) | Group B (n =133) | Total (n =270) | p-value |
|---|---|---|---|---|
| Uterine Artery Ligation | 17 (12.41%) | 16 (12.03%) | 33 (12.22%) | |
| Hayman's Stitch | 5 (3.65%) | 1 (0.75%) | 6 (2.22%) | |
| B Lynch | 6 (4.38%) | 13 (9.77%) | 19 (7.04%) | |
| Total | 28 (20.44%) | 30 (22.56%) | 58 (21.48%) | 0.6718[C] |

*Abbreviation: C – Chi square test, MC – Chi square test with Monte Carlo simulation.*

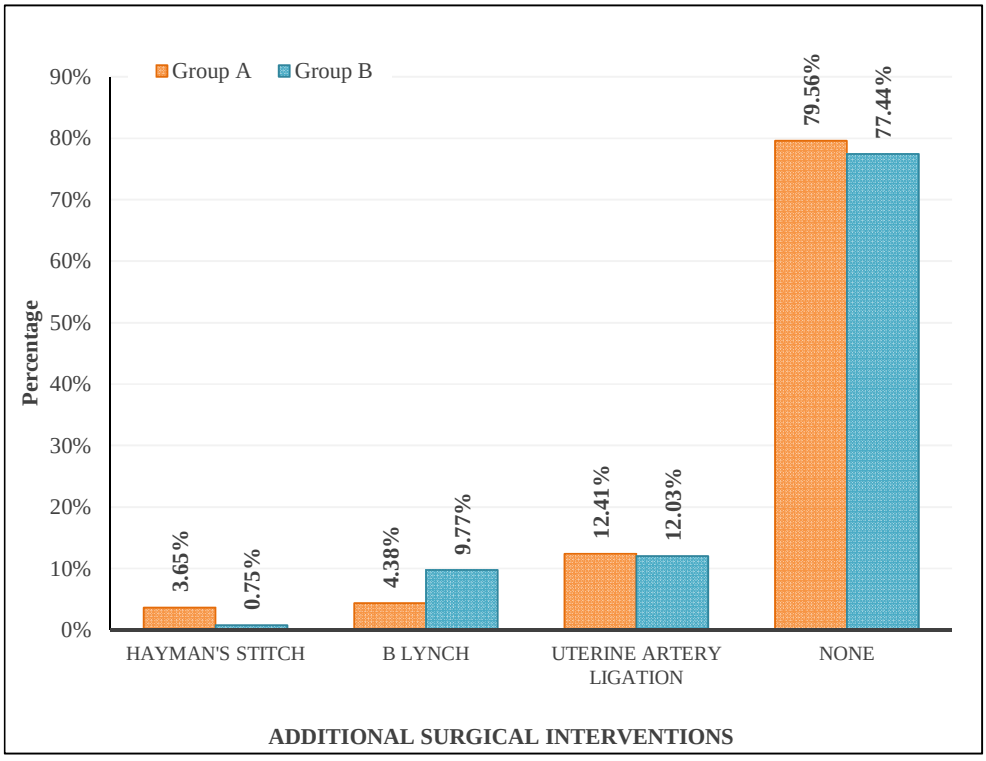



**Figure 19: Distribution of additional surgical intervention over groups.**

In Group A, 20.44% of patients required additional surgical intervention, while in Group B, this percentage was slightly higher at 22.56%. On the other hand, 79.56% of patients in Group A and 77.44% in Group B did not need any additional surgical intervention. From Chi square test, it is observed that, there is no significant difference in the distribution of additional surgical interventions over groups (p-value = 0.6718).

Hayman's Stitch was performed in 3.65% of participants in Group A and 0.75% in Group B. From Chi square test, it is observed that, there is no significant difference in the distribution of Hayman's stitch over groups (p-value = 0.2249).

The B Lynch procedure was used in 4.38% of participants in Group A compared to 9.77% in Group B. From Chi square test, it is observed that, there is no significant difference in the distribution of B Lynch procedure over groups (p-value = 0.0831).

Uterine Artery Ligation was performed in 12.41% of Group A and 12.03% of Group B. From Chi square test, it is observed that, there is no significant difference in the distribution of uterine artery ligation over groups (p-value = 0.9243).

From Chi square test, it is observed that, there is no significant difference in the distribution of additional surgical interventions over groups (p-value = 0.6718).

**Table.14: Comparison Of Change In Hemoglobin**

| Variables | Sub Category | Group A (n = 137) | Group B (n =133) | Total (n =270) | p-value |
|---|---|---|---|---|---|
| Pre-Op HB (mg/dl) | Mean ± SD | 11.67 ± 1.23 | 11.65 ± 1.27 | 11.66 ± 1.25 | 0.7897[MW] |
| Post Op HB (mg/dl) | Mean ± SD | 10.69 ± 1.11 | 10.57 ± 1.26 | 10.63 ± 1.19 | 0.4175[MW] |
| Drop in HB (mg/dl) | Mean ± SD | 0.98 ± 0.69 | 1.08 ± 0.67 | 1.03 ± 0.68 | 0.2735[MW] |

*Abbreviation: MW – Mann Whitney U test, W – Wilcoxon test, * indicates statistical significance.*

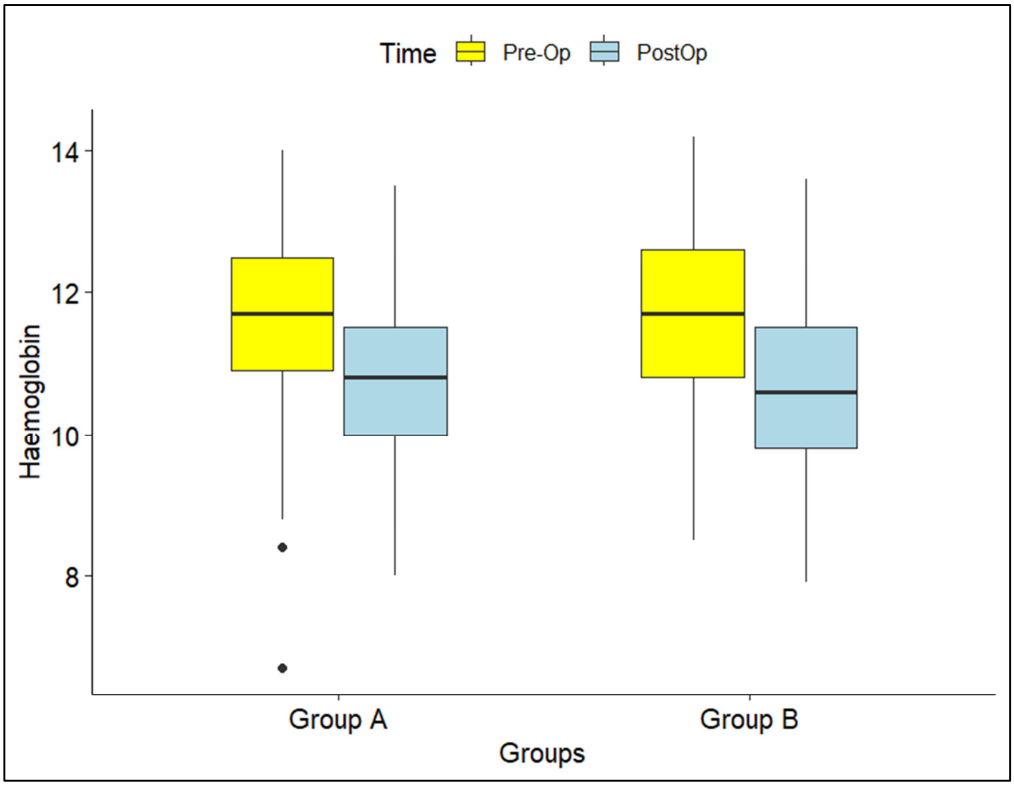



**Figure 20: Plot of hemoglobin over time.**

Hemoglobin was obtained from automated analyser method.

Prior to operation, the mean haemoglobin (HB) level in Group A was 11.67 ± 1.23 mg/dl with a median of 11.7 mg/dl (range: 6.7 to 14). In Group B, the mean preoperative HB level was 11.65 ± 1.27 mg/dl with a median of 11.7 mg/dl (range: 8.5 to 14.2). From Mann Whitney U test, it is observed that, there is no significant difference in the distribution of preoperative HB levels between the two groups (p-value = 0.7897).

Postoperatively, Group A had a mean HB level of 10.69 ± 1.11 mg/dl with a median of 10.8 mg/dl (range: 8 to 13.5). Group B had a slightly lower mean postoperative HB level of 10.57 ± 1.26 mg/dl with a median of 10.6 mg/dl (range: 7.9 to 13.6). From Mann Whitney U test, it is observed that, there is no significant difference in the distribution of postoperative HB levels between the two groups (p-value = 0.4175).

From Wilcoxon test, it is observed that there is a significant decrease in HB levels from preoperative to postoperative measurements in both groups (p-values < 0.001).

The drop in HB was more in group B compared to group A. However, this difference was not statistically significant (p-value = 0.2735).

**Table 15: Comparison Of Change In Hematocrit**

| Variables | Subcategory | Group A (n = 137) | Group B (n =133) | Total (n =270) | p-value |
|---|---|---|---|---|---|
| Pre-Op Hematocrit | Mean ± SD | 34.81 ± 3.07 | 35.33 ± 3.38 | 35.07 ± 3.23 | $0.2068^{M}_{W}$ |
| Post Op Hematocrit | Mean ± SD | 33.24 ± 2.76 | 33.15 ± 3.25 | 33.2 ± 3.01 | $0.8302^{M}_{W}$ |
| Drop in Hematocrit | Mean ± SD | 1.57 ± 1.78 | 2.18 ± 1.99 | 1.87 ± 1.91 | **$0.0035^{M}_{W*}$** |

*Abbreviation: MW – Mann Whitney U test*

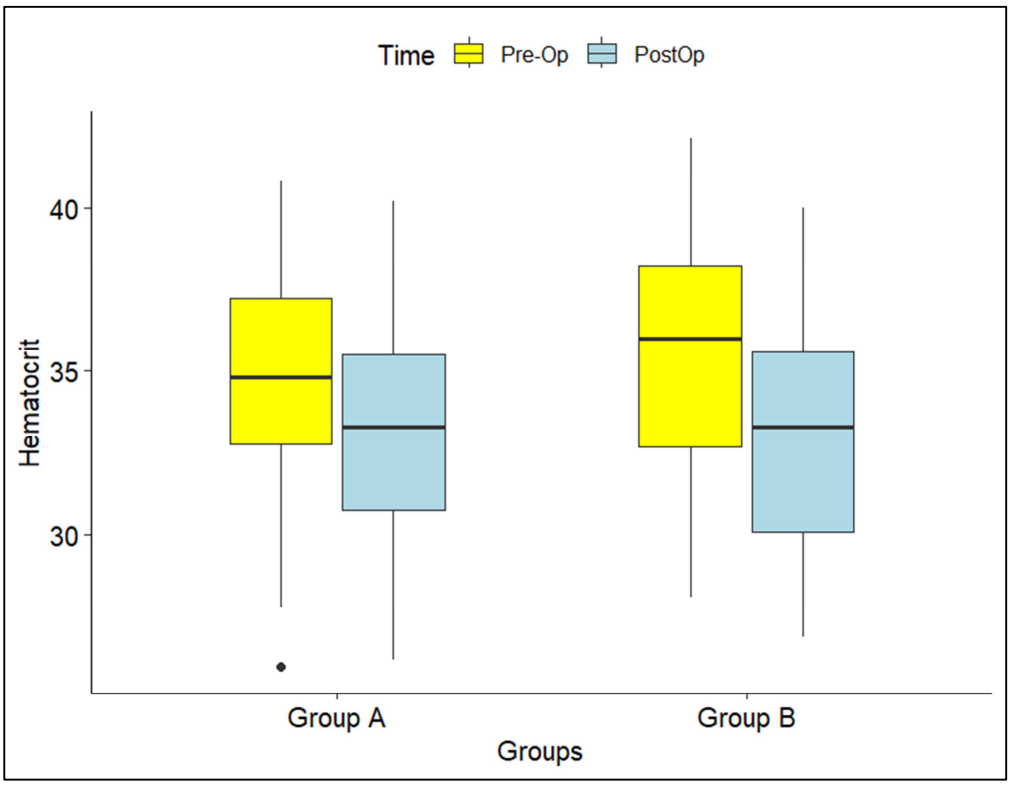



**Figure 21: Plot of hematocrit over time**

Prior to operation, the mean Hematocrit level in Group A was 34.81 ± 3.07% with a median of 34.8% (range: 26 to 40.8). In Group B, the mean preoperative Hematocrit level was 35.33 ± 3.38% with a median of 36% (range: 28.1 to 42.1). From Mann Whitney U test, it is observed that, there is no significant difference in the distribution of preoperative Hematocrit levels between the two groups (p-value = 0.2068).

Postoperatively, Group A had a mean Hematocrit level of 33.24 ± 2.76%with a median of 33.3% (range: 26.2 to 40.2). Group B had a slightly lower mean postoperative Hematocrit level of 33.15 ± 3.25% with a median of 33.3% (range: 26.9 to 40). From Mann Whitney U test, it is observed that, there is no significant difference in the distribution of postoperative Hematocrit levels between the two groups (p-value = 0.8302).

From Wilcoxon test, it is observed that there is a significant decrease in Hematocrit levels from preoperative to postoperative measurements in both groups (p-values < 0.001).

Group A experienced a mean drop in hematocrit of 1.57 ± 1.78% with a median drop of 1.4%, ranging from -2.3% to 8.3%. In contrast, Group B had a mean drop of 2.18 ± 1.99% with a median of 1.75, ranging from -2% to 11%. It can be noted that the drop in Hematocrit was more in group B compared to group A. Further from Mann Whitney U test, it is observed that this difference is statistically significant (p-value = 0.0035).

**Table 16: comparison of post operative complication over groups.**

| Variables | Subcategory | Group A (n = 137) | Group B (n =133) | Total (n =270) | p-value |
|---|---|---|---|---|---|
| Fever | No | 134 (97.81%) | 124 (93.23%) | 258 (95.56%) | |
| | Yes | 3 (2.19%) | 9 (6.77%) | 12 (4.44%) | |
| Wound Infection | No | 135 (98.54%) | 131 (98.5%) | 266 (98.52%) | |
| | Yes | 2 (1.46%) | 2 (1.5%) | 4 (1.48%) | |
| ICU Admission | No | 136 (99.27%) | 131 (98.5%) | 267 (98.89%) | |
| | Yes | 1 (0.73%) | 2 (1.5%) | 3 (1.11%) | |
| TOTAL | Yes | 5 (3.65%) | 11 (8.27%) | 16 (5.93%) | 0.1079[C] |

*Abbreviation: C – Chi square test, MC – Chi square test with Monte Carlo simulation.*

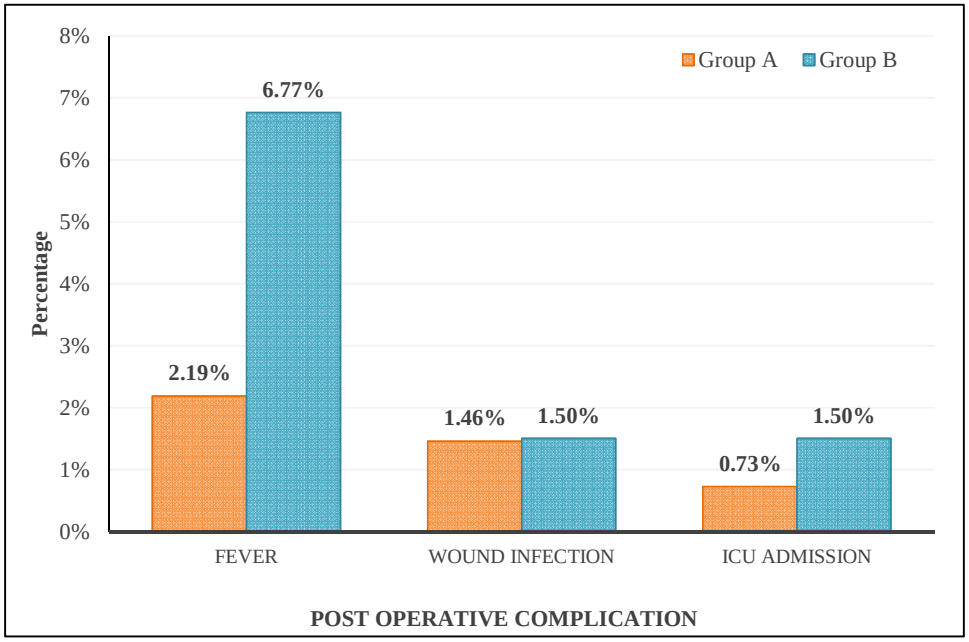



**Figure 22: Distribution of post operative complications over groups.**

For fever, 97.81% of patients in Group A did not experience fever compared to 93.23% in Group B. From Chi square test, it is observed that there is no significant difference in the distribution of fever over groups (p-value = 0.0681).

Regarding wound infections, the occurrence was very low in both groups, with 1.46% in Group A and 1.5% in Group B experiencing this complication. From Chi square test, it is observed that there is no significant difference in the distribution of wound infection over groups (p-value > 0.9999).

For ICU admission postoperatively, 99.27% of patients in Group A did not require ICU admission compared to 98.5% in Group B. From Chi square test, it is observed that there is no significant difference in the distribution of ICU admission over groups (p-value = 0.6192).

In Group A, 96.35% of patients did not experience any post-operative complications, whereas this percentage was slightly lower in Group B at 91.73%. On the other hand, 3.65% of patients in Group A experienced post-operative complications compared to 8.27% in Group B. From Chi square test, it is observed that there is no significant difference in the distribution of post operative complication over groups (p-value = 0.1079).

No adverse drug reactions were noted to either of the drugs during the course of the study.

# DISCUSSION

This study was conducted among 270 women undergoing caesarean sections, to compare the difference in blood loss in these women, when heat stable Carbetocin and Oxytocin are given prophylactically as uterotonics.

This study is among the few that compare heat stable Carbetocin and oxytocin in caesarean sections with risk factors for primary postpartum haemorrhage (PPH), focusing on both the hemodynamic effects and the efficacy in preventing PPH.

## *DEMOGRAPHIC CHARACTERISTICS*

### *Age distribution*

The mean age in our study as per depicted in **Table no. 2** was 26.35 ± 4.19 years in the Carbetocin group and 25.97 ± 4.24 years in the oxytocin group, with no statistically significant difference between the groups.

In a study conducted by Widmer et al. for the WHO CHAMPION Trial in ten countries with 23 sites for the prevention of haemorrhage following vaginal delivery, the age distribution had a median of 25 in both the study groups. Interquartile range was 22-30 in the study groups[43.]

In a study conducted by G. Larciprete et al which assessed the use of Carbetocin vs Oxytocin in caesarean section with high risk of postpartum haemorrhage; the mean age distribution was 37±5 in Carbetocin group and 36.1±4.1 in Oxytocin group with a p value of 0.33[56].

In another study conducted by Delorme et al in caesarean sections for prevention of postpartum haemorrhage; the mean age distribution was 34±5.5 in Group A (Carbetocin) and 32±5.5 in group B (Oxytocin)[57].

In all the above studies conducted it is noted that the age distribution between both groups is well matched.

***Registration status***

In the present study as depicted in **Table no. 3** the registered cases in our institution were 186 cases (68.89%) and unregistered were 84 cases (31.11%).

In an effort to lower perinatal mortality and improve the standard of care for expectant mothers, the WHO has updated its recommendation to raise the minimum number of prenatal care interactions from four to eight.

Registered cases are defined as cases which have received antenatal care at least eight times at the study hospital[58].

***Gestational age distribution***

In the present study conducted as per **Table no. 4** among 270 participants, the mean distribution was 38.4±1.48 in group A and 38.6 ±1.38 in group B with a p value of 0.1277. Both groups were well matched.

Similar findings were noted in the study conducted by Widmer et al where the median gestational age -weeks was 39 in both the study groups, with interquartile range of 38-40, suggesting that both study groups were well matched[43].

As per study conducted by G. Larciprete et al. the mean gestational age (median range) was 38(37-39) in group A and 37(36-38) in group B which is also well matched between the two study groups[56]. Another study conducted by S. Kang et al, the gestational age in weeks (mean ±SD) was 39.1 ±0.6 in group A and 39.2±0.6 in group B[58].

***Body mass index***

The median (range) BMI in our study as shown in **Table no. 5** was 25.5(21-34) in group A and 25.6 (20-34) in group B with a p value of 0.9130.

According to a study conducted by C.A. Whigham et al on participants undergoing caesarean section, the BMI in Group A who received Carbetocin has a mean (SD) of 27.6(7.2) and in group B who received Oxytocin has a mean(SD) of 27.7 (6.1)[50].

All the above studies done indicate that the demographic characteristics were well matched.

***CLINICAL CHARACTERISTICS***

In terms of obstetric score, 36.5 % of participants in group A are primigravida as compared to 47.3% in group B, while 63.5% in Group A are multigravida compared to 52.63% in Group B as shown in **Table no. 6.**

In a study conducted by Widmer et al 2018 showed that 43.5% were nulliparous in group A which received Carbetocin and 43.7% in group B respectively[43]. In a study conducted in Australia by C.A. Whigham et al. it is observed that out of 112 subjects undergoing non elective caesarean section, 37 (62.7%) were

nulliparous in group A and 30 (56.6%) in group B , while 22 (37.3%) were multiparous in group B and 23 (43.4%) in group B[50].

***INDICATION FOR LSCS***

The most common primary indication for a caesarean section as per the study conducted was Previous caesarean section with 51 cases in group A and 41 cases in group B as shown in **Table no. 7**. Fetal distress, which was observed on cardiotocography in 40 cases in both group A and group B, was the second most frequent indication. Other causes were anamnios/ severe oligohydramnios (5.11%) in group A and around (8.27%) in group B.

D. Mannaerts et al. conducted a study to assess the adverse effects of Carbetocin and Oxytocin when used in caesarean sections where the most common indication for caesarean section was previous caesarean section in 62% of the study population in group A and 69% in group B[44]. This is similar to the findings in our study.

G. Larciprete et al. conducted a study among 51 participants where it was seen that most common indication in group A was two or more caesarean sections with 17(33.3%) cases followed by twin pregnancy as the second most common indication with 11(21.6%) cases. Whereas in group B most common indication for caesarean section was twin pregnancy in 22 cases (41.2%) followed by two or more CS in 12 cases(23.5%)[56].

A study conducted by C.A. Whigham et al showed a different result with the primary indication being Failure to progress among 25 cases (42.4%) in group A and

16 cases (30.2%) in group B and only 8 cases (15.6%) in group A and 7 cases (13.2%) in group B with previous Caesarean section[50].

### *HIGH RISK FACTORS*

As per depicted in **Table no. 8** in our study it is noted that out of total 270 study participants ninety-six participants were associated with high risk factors. In our center it was seen that anaemia and hypertension were prevalent among the risk factors. From Chi square test, it is observed that there is no significant difference in the distribution of high-risk factors over groups (p-values > 0.05). This is suggestive that there are no confounding factors between both the groups.

Maged et al conducted a study in Egypt where Carbetocin vs oxytocin were used in high-risk women for PPH undergoing vaginal delivery to prevent PPH. In this study out of 200 participants it was well noted that the mean was 54 in group A and 60 in group B for patients with history of PPH. Antepartum haemorrhage had a mean value of 1 in group A and 2 in group B respectively[45].

### *POSTPARTUM HAEMORRHAGE AND BLOOD LOSS*

**Table no. 9** shows distribution based on blood loss categorised as <500ml, 500-1000ml and >1000ml. In our study, the incidence of PPH, defined as blood loss greater than 1000 ml, was recorded in only one case which received Heat stable Carbetocin as the uterotonic. The measured blood loss was greater than 1000ml as it was a case of abruptio placenta and clots alone measured 500gms corresponding to 500ml.

According to Widmer et al. (2018) CHAMPION Trial, 223 (1.51%)participants had blood loss >1000ml in group A and 214(1.4%) in group B.(relative risk, 1.04; 95%CI,0.87 to 1.25; adjusted CI, 0.85 to 1.28; P=0.03 for non-inferiority)[43].

As per study conducted by C.-A. Whigham et al. in Australia in subjects undergoing caesarean section; there was PPH in 7 participants receiving Carbetocin and 8 cases receiving Oxytocin; hence proving a similar incidence between both the groups[50].

Kang S et al. (2021) study conducted a prospective, randomised controlled trial in Jiangsu, China on high-risk women undergoing caesarean section showed PPH incidence of 3.2% in Carbetocin group and 5.2% in Oxytocin Group[59]. In a 3-arm study conducted by A.E.H. Elbohoty (2016) et a incidence of PPH was 3% in Carbetocin group and 8% in Misoprostol group and 6% in Oxytocin group[49].

It was observed that in Group A 79.56% (109) of the cases and in group B 66.17%(88) the blood loss was less than 500ml with a p value of $0.0132^{C*}$ which is statistically significant. Whereas between 500-1000ml it was noted that group B had a higher percentage of 33.83% and group A had 19.71% with a p value of $0.0087^{C*}$. Blood loss >1000ml was seen in only one case and hence p value was not statistically significant for >1000ml as the number of cases were not adequate.

In the three-arm study conducted by A.E.H Elbohoty in 2016 on participants undergoing caesarean section it was seen that in 47% in the misoprostol group, 34% in the oxytocin group and only 20% in Carbetocin group had a blood loss between 500- 1000ml with a p value of 0.001.[49]

As seen in **Table no. 10 ,**the average blood loss was 398.32 ± 177.74 ml in the participants who received heat stable Carbetocin and 432.78 ± 122.26 ml in group B who received oxytocin.

The Mean blood loss in a 3-arm study conducted by A.E.H. Elbohoty (2016) was found to be 437 ml in Carbetocin group and 439 ml in oxytocin group and 583 ml in misoprostol group[49].

However, it is noteworthy that our study observed a trend towards lower blood loss in the Carbetocin group. This trend, statistically significant, suggests a potential clinical advantage of heat stable Carbetocin in managing blood loss during caesarean sections.

***BLOOD TRANSFUSION***

**Table no. 11** shows the distribution of cases requiring blood transfusion in group A were eight individuals (5.84%) and in group B were twelve (9.02%). Out of the 8 requiring blood transfusion in group A four of them were pre-operatively anaemic with haemoglobin of <9.0g/dl and two were cases of abruptio placenta which had a blood loss of more than 1000ml.In both the cases of abruptio placenta, intra-operatively major retroplacental clots noted measuring around 650- 800gms. Hence the blood loss calculated has no association with uterotonics or postpartum haemorrhage. Similarly in Group B it was noted that five out of twelve were pre-operatively diagnosed with anaemia and required blood transfusion. Hence post operatively participants who received blood transfusion were only four individuals in group A and seven in group B.

M. Widmer et al had conducted the CHAMPION Trial in which blood transfusion was required in 1.6% (229) of cases in Carbetocin group and 1.3% (198) in oxytocin group respectively[43]. C.-A. Whigham et al. study showed an equal requirement of blood transfusion among the groups[50].

### *ADDITIONAL UTEROTONICS*

**Table no. 12** shows the uses of additional uterotonics. A total of 68.52% required additional uterotonics and 67.15% and 69.92% in group A and group B respectively. Inj. Oxytocin was used as an additional uterotonic in 42(31.58%) cases in group B and 32(23.36%) in group A followed by Inj. Methergine used in 31(22.63%) cases of group A and 28(21.05%) cases of group B. Oral Misoprostol was used additionally in 20 (14.6%) cases in group A and 17 (12.78%) cases in group B. Inj. Prostadin was used in a total of 15 cases; 9(6.57%) in group A and 6 (4.51%) in group B.

Widmer et al study conducted across 23 countries showed that in both study groups additional uterotonics were used in 10.4% of the cases with a relative risk(95%CI) of 1.00 (0.94 to 1.07)[43].

A.E.H. Elbohoty et al. proved that Carbetocin required additional uterotonic agents in only 5 cases and 11 cases required in the Oxytocin group[49]. On the contrary a study conducted by C.-A. Whigham et al. suggested that additional uterotonic agents were required more in the Carbetocin group in 13 cases and only 7 in oxytocin group with a p value of 0.323[50].

While Carbetocin has shown promise as an effective uterotonic, it is essential to consider its use in conjunction with other uterotonic agents. The combined use of

Carbetocin and oxytocin, as well as other agents like misoprostol, may offer enhanced protection against PPH, particularly in high-risk cases.

Studies by van der Nelson et al. (2019)[60] and Pisani et al. (2012)[61] have explored the effects of combining different uterotonics, highlighting the potential benefits and challenges. These findings suggest that a multifaceted approach to PPH prevention, utilizing a combination of uterotonics, may provide the best benefits and challenges. These findings suggest that a multifaceted approach to PPH prevention, utilizing a combination of uterotonics, may provide the best outcomes for patients. The "test, treat, track" strategy recommended by the WHO for managing PPH emphasizes the importance of timely and accurate administration of uterotonics. Integrating Carbetocin into this strategy could enhance its effectiveness, particularly in settings where maintaining the cold chain for oxytocin is challenging.

***ADDITIONAL SURGICAL INTERVENTION***

As depicted in **Table no. 13**, majority of the cases did not require additional conservative surgical procedures. 212 cases out of 270 did not require. In Group A receiving heat stable Carbetocin, 20.44% of patients required additional surgical intervention, while in Group B, this percentage was slightly higher at 22.56% with a p value of 0.6718. It was noted that Uterine Artery Ligation was most commonly performed in 12.41% of Group A and 12.03% of Group B. In our study centre, most of the cases with excessive bleeding are managed with uterotonics and medical management, if bleeding is still not controlled or haemostasis is not achieved then uterine artery ligation on either side is commonly performed. Surgical compression sutures are usually taken only when there is no contraction of uterus despite all uterotonics. B lynch sutures were performed in only 4.38% of group A and 9.77% of

group B. Hayman's stitch was used additionally to prevent PPH in a total of 6 cases, 3.69% in group A and 0.75% in group B.

In the study conducted by Widmer et al it was seen that additional surgical procedures were required in 1.1% (159) of group A and 0.9% (138) of group B[43].In the above study additional surgical procedures included suturing of cervical tears, uterine artery ligation, uterine compression sutures or hysterectomy.

On the contrary to the findings in our study, Kang S et al. study showed a slightly higher use of additional surgical intervention between both the groups 5.9% in Carbetocin group and 5.0% in oxytocin group with a p value of 0.6[58].

***COMPARISON OF HEMOGLOBIN PRE AND POST DELIVERY***

In **Table no. 14** the pre-operative, post-operative haemoglobin and haemoglobin drop in our study have been analysed. Haemoglobin was estimated using automated analyser. The Mean Haemoglobin pre-operatively in group A was 11.67±1.23mg/dl and in group B was 11.65 ± 1.27 mg/dl. Post-operatively haemoglobin levels in group A were decreased to 10.69 ±1.11 and 10.57 ±1.26 in group B. The mean drop in haemoglobin was 1.03 ± 0.68 and p value was calculated to 0.2735.

Similar to our study even in study conducted by C.A. Whigham et al. the haemoglobin drop was evaluated and was 1.76 in Carbetocin group and 1.82 in oxytocin group with a p value of 0.784[50].

Contrarily the study conducted by Maged AM et al. in 2016 Haemoglobin' difference (before and after delivery) (g/dl) was 0.55 ± 0.35 in group A (Carbetocin)

and 0.96 ± 0.62 in group B (Oxytocin) with a p value of 0.001 and was statistically significant[45].

***COMPARISON OF HEMATOCRIT PRE AND POST DELIVERY***

The Haematocrit/ Packed cell volume was measured using automated analyser.

As per **Table no. 15**, the Median haematocrit level in group A pre-operatively was 34.8 in group A and 36 in group B respectively. Post operatively, the median haematocrit values were same in both the groups with a value of 33.3. The drop in haematocrit was calculated to be 1.87

± 1.91 with a p value of 0.0035 which is statistically significant.

***POST OPERATIVE COMPLICATIONS***

In this study as per **Table no. 16,** 3.65% study population have post op complications in group A and 8.27% in group B.

Three cases in group A had fever post operatively and one was diagnosed with dengue. Nine cases in group B developed fever and were treated accordingly. Three patients in group B had associated blood transfusion and developed fever post transfusion. The other six patients remained undiagnosed with a definite cause in spite of complete evaluation. Wound infections, the occurrence was very low in both groups with 1.46% in group A and 1.5% in group B. Two cases were associated with post-operative anaemia. For ICU admission postoperatively, 99.27% of patients in Group A did not require ICU admission compared to 98.5% in Group B. Patient

diagnosed pre-operatively with abruptio placenta was admitted in ICU post-operatively in view of DIC.

M. Widmer et al study showed that severe complications were seen in 26(0.2%) cases of carbetocin group and in 23(0.2%) cases of oxytocin group with a relative risk (95% Cl) of 1.13 (0.65 to 1.98)[43].

No adverse reactions from the drug administration were noted in both groups during the course of the study.

### *GLOBAL HEALTH CONTEXT*

Globally, PPH remains one of the leading cause of maternal mortality, accounting for 27.1% of all maternal deaths. The majority of these deaths occur in low- and middle-income countries where access to effective uterotonics is often limited due to the need for cold chain storage for oxytocin. The introduction of heat stable Carbetocin provides a significant advancement in these settings, reducing the logistical challenges associated with oxytocin.

The World Health Organization (WHO) has recognized the potential of heat stable Carbetocin and included it in the Model List of Essential Medicines for reproductive health. This inclusion underscores the importance of Carbetocin in improving maternal health outcomes, particularly in resource-limited environments.

### *LONG-TERM OUTCOMES AND FUTURE RESEARCH*

While the immediate benefits of Carbetocin in preventing PPH are well-documented, long-term outcomes related to its use are less explored. Future research should focus on longitudinal studies that track maternal health outcomes over

extended periods to fully understand the broader implications of these findings highlight the potential of Carbetocin to transform maternal healthcare, particularly in low- and middle-income countries. As healthcare systems worldwide strive to reduce maternal mortality and improve health outcomes, the adoption of effective and accessible uterotonics like Carbetocin will be crucial.

WHO is currently running a large randomised trial (the REACH Study) to evaluate whether heat stable Carbetocin is non-inferior to oxytocin for treatment of PPH in women who receive heat stable Carbetocin for PPH prophylaxis [36].

**STRENGTHS OF THE STUDY**

1) The study conducted is a Randomized controlled trial
2) The two groups were well matched for demographic variables and hence results were not affected by confounding factors.

**LIMITATIONS OF THE STUDY**

1) Sample size is small.
2) Research carried out exclusively at one center
3) Blood loss estimation was not accurate as it was based on visual estimation method.

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# CONCLUSION

Heat stable Carbetocin was as effective as oxytocin in the prevention of postpartum haemorrhage in caesarean sections. Given its extended duration of action and stability in varying temperatures, Carbetocin offers a practical and effective alternative to Oxytocin, particularly in settings where maintaining a cold chain is challenging. This study contributes to the growing body of evidence supporting the use of Carbetocin as a standard uterotonic agent in the prevention of PPH.

## SUMMARY

The present study was a prospective, single blinded, randomized controlled trial conducted to assess the effectiveness of Heat stable Carbetocin versus the standard Injection oxytocin in reducing blood loss during cesarean deliveries in women at a tertiary care centre. The study was carried out at the Department of Obstetrics and Gynecology of KAHER's Dr. Prabhakar Kore Charitable Hospital and Medical Research Centre, Belagavi, Karnataka over a period of one year. Patient population included all term pregnant women undergoing caesarean sections according to the inclusion criteria. A total of 270 patients were recruited in the study and randomized into two groups of 137 participants in Group A received heat stable Carbetocin 10mcg I.M and Group B received 10 IU of injection Oxytocin after delivery of baby. Data regarding demographic characteristics, investigations, treatment, and outcomes was collected in the form of a structured proforma and analysed statistically.

The key findings of this study are summarized as follows:

- The age of the participants ranged from 18 years to 39 years with mean age of 26.16 ± 4.21 years. There was no correlation between age and outcomes.
- The median BMI of the participants in the study was 25.6 $kg/m^2$. The group A had an average BMI of 25.5 $kg/m^2$ , while the group B had a BMI of 25.6 $kg/m^2$. There was no significant difference in the distribution of BMI over the groups.
- The Median gestational age was 38.6, with a mean ± SD of 38.4 ± 1.48 of the women in the group A and 38.6 ± 1.26 of the women in the group B falling under this category.

- Majority of the study population that is 63.5% in group A and 52.63% in group B were multigravida.
- The most common primary indication for LSCS was a history of previous LSCS 51 in the group A and 41 in group B followed by Foetal distress (10.22%). High risk factors for PPH were distributed equally over both the groups.
- Mean blood loss in group A is 398 ± 177.74 and in group B is 432.78 ± 122.26 and was statistically significant with a p value of $<0.001^{MW*}$.
- This study showed that 72.96% had blood loss <500ml and 26.67% participants had blood loss in the range of 500-1000ml with significant p value of $0.0132^{C*}$ and $0.0087^{C*}$ respectively. As per ACOG, PPH is defined as blood loss more than 1000ml which was seen in only one case in group A in our study.
- The calculated haemoglobin levels in group A pre-operatively were 11.67 ± 1.23 and post-operatively were 10.67 ± 1.11. In group B, pre-operatively haemoglobin was 11.65 ± 1.27 and post-operatively was 10.57 ± 1.26. The drop in Hb is 1.03 ± 0.68. The haematocrit levels were also analysed pre-operatively and post operatively in both the groups. The Mean ± SD in group A was calculated to be 34.81 ± 3.07 and in group B was 35.33 ± 3.38 pre-operatively. Post-operatively, in group A it is noted to be 33.24 ± 2.76 and group B is seen to be 33.15 ± 3.25. The drop in Haematocrit was 1.87±1.91 and was calculated to be $0.0035^{MW*.}$
- In this study a total of 20 participants required blood transfusion with 5.84% in group A and 9.02% in group B.

- Regarding the use of additional uterotonics it was noted that in group A 45 (32.85%) did not require additional uterotonics and in group B 40(30.08%) participants did not require. Most commonly used uterotonic was oxytocin.
- Additional surgical intervention used commonly to combat postpartum hemorrhage was seen to be uterine artery ligation in our study in total of 33 cases( 12.22%).
- No adverse effects were recorded due to usage of both drugs during the study period.
- Post operative complications such as ICU admission, Fever and Wound infection were analysed and was noted in six cases in group A and thirteen cases in group B.
- The study concluded that Heat stable Carbetocin is as effective as Oxytcoin in prevention of postpartum hemorrhage in caesarean sections.

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# ANNEXURE-I

## KAHERs JNMC, BELAGAVI

## INFORMED CONSENT FORM

**"Inj. Oxytocin vs Inj.Carbetocin in reduction of postpartum blood loss in caesarean deliveries- A Randomised Control trial"**

Name of Student/Principal Investigator

Name of Guide/Co Investigators

Objective: To find out the effectiveness of Oxytocin vs Carbetocin in reducing postpartum blood loss in caesarean deliveries.

**Introduction**

Postpartum haemorrhage is the main cause of maternal death in developing countries. Primary PPH is defined as blood loss more than 500 mL after vaginal delivery and more than 1000 mL after caesarean section, that occurs in the first 24 hours after delivery.

Post-partum hemorrhage is common and can also occur in patients with no prior risk factors for hemorrhage. In order to prevent the occurrence of PPH, active management of labour should be routinely practiced during the third stage of labour. The methods of active behaviour during delivery to prevent PPH are administration of prophylactic uterotonics after the birth of the newborn, early clamping and cutting of the umbilical cord, controlled traction of the cord and uterine massage. These measures have been associated with a considerable reduction in the frequency of PPH. However,

the focal point of active management in prevention of PPH is the use of uterotonic drugs. Uterotonic agents for prevention of PPH include oxytocin, methylergonovine, misoprostol and more recently, carbetocin.

Oxytocin (10U) administered intramuscularly is the preferred medication for the prevention of PPH over years and listed in WHO Model of Essential medicines. (From the picture sent). Carbetocin is a long-acting synthetic analogue of oxytocin with a half-life 4 to 10 times than that of oxytocin. The use of carbetocin 100mcg intravenously /intramuscularly is recommended for the prevention of PPH according to WHO. The major advantage of Carbetocin is that the formulation is heat stable and is particularly useful in developing countries where the cold chain is unreliable because of equipment problems. The additional advantages of Carbetocin are that it is easily available, cost effective and has a prolonged duration of action (half-life: 40 min compared to half-life of oxytocin: 1-6 min)

In this study, we aim to find the effectiveness of Inj.Oxytocin vs Carbetocin in management of postpartum haemorrhage in caesarean deliveries. We aim to estimate the blood loss using the Visual estimation technique and calculate the additional use of uterotonic drugs.

**Withdrawal from participation in the study:** Participation in this study is voluntary. You will be free to decide whether to participate in this study or continue participation once enrolled. In case you decide to withdraw your participation, you are free to do so. However, please convey the decision to the principal investigator.

**Possible benefits from participating in the study:** You will/will not have nor get any benefits by participating in this study. The data gathered will help the population at large.

**Possible risks from participating in the study:** There are no risks involved in participating in this study.

**Privacy and confidentiality:** The information collected from you will be coded, to prevent any person from identifying you. Your identity will never be revealed. The data collected from you will be kept confidential and only processed or aggregated data will be used for publication.

**Financial incentives:** You will not receive any payment for participating in this study.

**Authorization for publication of aggregated data:** Results obtained after processing of the aggregated data will be published for scientific purposes and or presented to scientific groups. However, your identity will never be revealed.

**Questions:** In case of any questions with regard to this study, you are free to contact: "Name of student/PI, mobile number, email ID" If you have any question or complaints with regard to your right as study participant you may contact the principal investigator, the guide, Chairperson, Ethical committee of JNMC, 0831-2473777 Extension 4052.

**Legal rights:** By signing this consent form, we are not waving any of your legal rights.

**CONSENT STATEMENT**

I am making a voluntary decision to participate in the study **"** Inj**.** Oxytocin vs Inj.Carbetocin in reduction of postpartum blood loss in caesarean deliveries- A Randomised Control trial**"** My signature below indicates that I have decided to participate, and I have read the information provided above or the information provided above has been read to me in the language that I understand best. I was given the opportunity to ask questions and that they have been answered to my satisfaction.

Name of the participant:

Signature or left thumb impression of the participant:

Name of the witness:

Signature or left thumb impression of the witness:

Name of the investigator:

Signature of the investigator:

# ANNEXURE-II

## SCREENING FORM

Participant information :

Screening number: ☐☐☐☐ IP number: ☐☐

Date of screening(dd-mm-yyyy): ☐☐ ☐☐ ☐☐☐☐

First name : ☐☐☐☐☐☐☐☐☐

Last name : ☐☐☐☐☐☐☐☐☐☐

Husband's name: ☐☐☐☐☐☐☐☐☐☐

Age (years) : ☐☐

Address:

District- ☐☐☐☐☐☐☐☐

Phone number: ☐☐☐☐☐☐☐☐☐☐

Eligibility –

Yes- 1, No - 2

Screening form

Date of screening –

(dd/mm/yyyy)

1) Term pregnancy Yes ☐ No ☐

LMP –

EDD -

USG 1st trimester EDD –

Actual gestational age –

2) Inclusion criteria:

1. Gestational age (37 0/7 to 41 6/7 weeks) of pregnancy ☐
2.Patient undergoing Caesarean section ☐
3.Age>18years ☐
4.Patient who are willing to participate ☐

If eligible, consent to be taken.

**Consent:**

a. Does the woman assent to participate? ☐

b. Has the study consent form been signed? ☐

3) Exclusion criteria:

- Known Epilepsy ☐ Yes ☐ No
- Known hypersensitivity to carbetocin ☐ Yes. ☐ No
- Known Liver disorders ☐ Yes ☐ No
- Known renal disorders ☐ Yes ☐ No

Women who are not willing to consent for the study. ☐ Yes. ☐ No

Known Cardiac disorders ☐ Yes ☐ No

Randomization form:

Eligibility

Is the women eligible for the study? Yes. No

Did women give consent for the study? Yes. No

Enrollment:

Were women enrolled in the study? ☐ Yes. ☐ No

Were women randomized? ☐ Yes. ☐ No.

If not randomized, reason?

1. Withdrawal from the study
2. Others

Date of Randomization: ☐☐ ☐☐ ☐☐☐☐

(dd/mm/yyyy)

Time of randomization (hh:mm): ☐☐ ☐☐

**Data collection instrumentation**

Study ID :

Date of admission ☐☐ ☐☐ ☐☐☐☐

Date of delivery ☐☐ ☐☐ ☐☐☐☐

Time of delivery ☐☐ ☐☐

Date of discharge ☐☐ ☐☐ ☐☐☐☐

**Obstetric history:**

Married Life (years) :

Obstetric score :

Gravida Para Live Abortion

**Previous LSCS**

**YES-1**

**NO-2**

**Past History: YES – 1 , NO – 2**

a. Known case of Diabetes mellitus:

If yes, Duration (in year's) :

Treatment received :

b. Known case of Hypertension :

If yes, Duration (in years) :

Treatment received :

c. H/O recurrent blood transfusions:

If yes, Duration (in years) :

d. Known case of Cardiac disorder:

If yes, Duration (in years) :

Treatment received:

e. H/O any surgery in past :

f. H/O any Drug allergy :

If Yes, Name of the drug :

**General physical examination- at admission**

Height (in centimetres)

Weight (in kilogram)

BMI

Pallor (Yes – 1, No – 2)

Icterus

Pedal Oedema

Blood pressure (mmHg) systolic –

diastolic -

Pulse rate (beats per minute) -

**Systemic examination**:

Per Abdomen: Uterine size (in week'si) :

Presentation :

Tone :

Fetal Heart rate : beats per minute

EFW clinically :

USG :

SFH :

**Investigations**-

Date (dd-mm-yyyy) :

Blood Group: :

Haemoglobin (g/dl) :

(cyanmethemoglobin method)

Packed cell volume (%) :

Serology : (Non- reactive – 1, Reactive – 2)

Platelets (lakhs) :

S. TSH (mu IU/ml) :

DIPSI :

Urine R &M :

**Provisional diagnosis:**

**LABOUR ROOM DETAILS:**

a. Place : Labour room

b. Mode of delivery: Elective LSCS :

Emergency LSCS :

c.Indication for LSCS -

d.Liquor : Blood stained ☐

Clear : ☐

Meconium stained : ☐

e. Baby cried immediately after birth : ☐

f. Baby birth time: ☐☐:☐☐

g. Time of administration study medication : ☐☐ ☐☐

h. Use of additional uterotonics : ☐

specify –

i. Use of additional procedures : ☐

Specify -

k. Maternal blood loss : ☐

caesarean section: mops : ☐☐☐ x 30 ml : ☐ ml

suction : ☐ ml

Total : ☐ ml

**Maternal Outcomes**:

1. Estimated Maternal Blood Loss (ml) ☐☐☐

| | Before Delivery | After Delivery |
|---|---|---|
| 2.Haemoglobin: (gm/dl) | ☐☐.☐ | ☐☐.☐ |
| 3.Packed Cell Volume: (%) | ☐☐☐ | |

**POST OPERATIVE COMPLICATIONS**

1.YES 2.NO

If yes

A)Blood transfusion PRBC CYRO FFP RDP SDP ☐ units

B) Fever

C) Wound infection

d)ICU admission

e)Any others

**Duration of hospital stay** ☐ **days**

# ANNEXURE- III MASTER CHART

| S.no | SCREENING NO. | IP NUMBER | Intervention group (A - CARBETOCIN / B - OXYTO | AGE(years) | SCORE | Gestational age AT DELIVERY(weeks and days) | BMI(kg/m2) | Pallor | SBP\DBP | PR | INDICATIONS FOR LSCS | Baby birth time | Blood loss(ml) | Mops used x 30 ml = blood loss | Suction bottle (ml) | Pre op HB (mg/dl) | Pre op hematocrit | Post op HB (mg/dl) | Post op hematocrit | POST PARTUM HEMORRHAGE (BLOOD LOSS > 10 | MEDICAL MANAGEMENT - ADDITIONAL UTEROT | HAYMAN'S STITCH( 1- YES / 2- NO) | B LYNCH( 1- YES / 2- NO) | UTERINE ARTERY LIGATION ( 1- YES / 2- NO) | Need for blood transfusion( 1 - yes / 2 - no) | POST OP COMPLICATIONS | Fever | ICU admission | others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 10000359 | A | 29 | G2A1 | 38.2 | 28 | 2 | 116/76 | 84 | PREVIOUS LSCS IN LABOUR | 21:52PM | 500 | 270 | 230 | 8.8 | 26 | 8 | 26.2 | | NONE | 2 | 2 | 2 | 1 | NONE | 2 | 2 | 2 |
| 2 | 2 | 10000367 | A | 18 | PRIMIGRAVIDA | 40.4 | 34 | 2 | 130/76 | 96 | CPD | 23:40PM | 550 | 350 | 200 | 12.5 | 32.7 | 11.5 | 30.4 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 3 | 3 | 12006618 | B | 23 | PRIMIGRAVIDA | 40.1 | 28 | 2 | 122/76 | 78 | CHORIOAMNIOITIS | 02:20AM | 400 | 180 | 220 | 12 | 30.2 | 11.6 | 30 | | NONE | 2 | 2 | 2 | 2 | YES | 1 | 2 | 2 |
| 4 | 4 | 12006368 | B | 19 | G2A1 | 39.1 | 34 | 2 | 140/92 | 96 | FETAL DISTRESS | 18:38PM | 450 | 250 | 200 | 12.6 | 30.7 | 12 | 30.2 | | INJ METHERGINE 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 5 | 6 | 12006556 | B | 29 | G2P1L1 | 38.6 | 29 | 2 | 122/76 | 80 | PREVIOUS LSCS NOT WILLING FOR VBAC | 07:43AM | 470 | 210 | 270 | 11.1 | 36.2 | 9.6 | 33.3 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 6 | 8 | 10000313 | A | 20 | G2A1 | 39.1 | 25.1 | 2 | 134/78 | 92 | NON PROGRESS OF LABOUR | 06:54AM | 280 | 100 | 180 | 13.6 | 38.2 | 11.6 | 30 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 7 | 9 | 10000370 | A | 30 | G3P2L2 | 39.3 | 26 | 2 | 110/78 | 84 | PREVIOUS LSCS IN LABOUR | 01:34AM | 410 | 210 | 200 | 10.6 | 30.7 | 10 | 30.2 | | INJ METHERGINE 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 8 | 11 | 10006655 | B | 35 | G5P2L2A | 37.4 | 31 | 2 | 112/68 | 78 | PREVIOUS 2 LSCS | 03:30AM | 520 | 360 | 160 | 11.3 | 33.6 | 9.2 | 28.2 | | INJ OXYTOCIN 10 U IM & IV , INJ CARBOPROST 250 MCG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 9 | 12 | 10005835 | B | 27 | PRIMIGRAVIDA | 39.6 | 30 | 2 | 126/90 | 74 | NON PROGRESS OF LABOUR | 12:07PM | 400 | 300 | 100 | 12.8 | 32.7 | 11.3 | 31.2 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 10 | 16 | 10000445 | A | 25 | G2P1L1 | 39.3 | 28 | 2 | 132/88 | 86 | PREV LSCS IN LABOUR | 13:18PM | 380 | 180 | 200 | 13.1 | 34.8 | 12.5 | 33.2 | | INJ.METHERGIN 0.2MG I.M | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 11 | 19 | 10000728 | A | 23 | G4P2L2 | 40.2 | 32 | 2 | 122/70 | 82 | PREVIOUS LSCS NOT WILLING FOR VBAC | 23:46PM | 450 | 210 | 240 | 10.6 | 30.7 | 10 | 30.2 | | INJ METHERGINE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 12 | 23 | 12006563 | B | 25 | PRIMIGRAVIDA | 38.3 | 28 | 2 | 126/72 | 78 | OLIGOHYDRAMNIOS | 19:11PM | 450 | 150 | 300 | 11 | 36.8 | 10.6 | 33.2 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 13 | 25 | 10000723 | A | 32 | G2P1L1 | 36.4 | 29.4 | 2 | 132/88 | 102 | PREVIOUS LSCS NOT WILLING FOR VBAC | 22:41PM | 340 | 180 | 160 | 10.4 | 32.6 | 9 | 29.7 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 14 | 26 | 12008163 | B | 23 | G2P1L1 | 39.1 | 30 | 2 | 128/72 | 78 | PREVIOUS LSCS NOT WILLING FOR VBAC | 16:58PM | 520 | 120 | 400 | 12.1 | 40.2 | 9 | 29.2 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 15 | 28 | 10000243 | B | 24 | PRIMIGRAVIDA | 38.2 | 27 | 2 | 132/78 | 76 | BICORNUATE UTERUS WITH BREECH | 10:16AM | 450 | 120 | 330 | 10.2 | 32.7 | 9.4 | 29.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 16 | 29 | 10000625 | A | 26 | G2P1L1 | 38 | 27.4 | 2 | 118/72 | 78 | PREV LSCS NOT W/F VBAC | 16:10PM | 350 | 150 | 350 | 11.6 | 32.7 | 11 | 32 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 17 | 30 | 10000512 | B | 24 | PRIMIGRAVIDA | 37.2 | 25.5 | 2 | 118/72 | 78 | PROLONGED PROM | 05:32AM | 380 | 240 | 140 | 12 | 38.2 | 9.1 | 28.2 | | INJ.OXYTOCIN 20 IU IV , INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 18 | 31 | 10000719 | A | 20 | PRIMIGRAVIDA | 39.1 | 22 | 2 | 126/80 | 88 | CPD | 22:38PM | 650 | 450 | 200 | 11.9 | 35.7 | 9.9 | 32.6 | | INJ OXYTOCIN 10 U IM & IV , INJ CARBOPROST 250 MCG IM | 2 | 1 | 2 | 1 | NONE | 2 | 2 | 2 |
| 19 | 33 | 10000295 | B | 27 | PRIMIGRAVIDA | 37.2 | 23.4 | 2 | 114/66 | 82 | FAILED INDUCTION | 13:47PM | 500 | 240 | 260 | 11 | 36.9 | 10.6 | 35 | | INJ.METHERGIN 0.2 MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 20 | 34 | 10001203 | B | 29 | G3P2L2 | 35.4 | 28 | 2 | 146/90 | 82 | PREVIOUS 2 LSCS | 18:43PM | 800 | 400 | 400 | 12.2 | 32 | 10.2 | 30.7 | YES | INJ.METHERGIN 0.2MG IM, INJ OXYTOCIN 20 IU IV | 2 | 2 | 2 | 1 | YES | 1 | 2 | WOUND INFECTION |
| 21 | 35 | 10000530 | A | 22 | PRIMIGRAVIDA | 37.2 | 27.6 | 2 | 128/72 | 86 | THICK MSL | 15:24PM | 480 | 220 | 260 | 12.6 | 32.4 | 10.3 | 33 | | INJ.METHERGIN 0.2MG | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 22 | 36 | 10000787 | A | 24 | G2P1L1 | 38.4 | 30 | 2 | 112/88 | 92 | PREV LSCS NOT W/F VBAC | 13:43PM | 350 | 150 | 200 | 12.1 | 37.2 | 11.5 | 36.5 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 23 | 41 | 10001212 | B | 32 | G2P1L1 | 37.3 | 26 | 2 | 120/80 | 88 | PREVIOUS LSCS NOT WILLING FOR VBAC | 12:07PM | 300 | 150 | 150 | 11.8 | 32 | 10.3 | 30 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 24 | 42 | 10001053 | B | 24 | PRIMIGRAVIDA | 38.6 | 27.2 | 2 | 130/80 | 86 | FETAL DISTRESS | 16:21PM | 400 | 150 | 250 | 12 | 36.2 | 9 | 30 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 25 | 43 | 10000647 | A | 28 | G4P2L2A2 | 37.4 | 29 | 2 | 126/78 | 72 | PREVIOUS 2 LSCS | 06:18AM | 520 | 360 | 160 | 11.4 | 34.2 | 10 | 30 | | INJ.METHERGIN 0.2MG IM ,INJ.CARBOPROST 250MCG I.M | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 26 | 44 | 10001046 | A | 23 | G2P1L1 | 38.4 | 28 | 2 | 122/76 | 82 | PREVIOUS LSCS NOT WILLING FOR VBAC | 12:49AM | 400 | 200 | 200 | 11.8 | 32.4 | 11 | 32 | | INJ.METHERGIN 0.2MG I.M | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 27 | 46 | 10000884 | A | 23 | G3P2L1D1 | 40.2 | 30.2 | 2 | 128/78 | 66 | PREVIOUS LSCS WITH POST DATISM | 02:12AM | 300 | 150 | 150 | 12.7 | 36 | 12 | 34.8 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 28 | 47 | 10000867 | B | 32 | G3P1L1A1 | 39.3 | 26 | 2 | 150/76 | 68 | PREVIOUS LSCS NOT WILLING FOR VBAC | 06:52AM | 350 | 150 | 300 | 11.7 | 34.8 | 10.8 | 32.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 29 | 48 | 12009300 | B | 28 | G2P1L1 | 37.1 | 28.5 | 1 | 110/72 | 88 | FETAL DISTRESS | 12:52AM | 550 | 300 | 250 | 9.8 | 33 | 9 | 32 | | INJ.OXYTOCIN 20 IU IV ,INJ.METHERGIN 0.2MG IM | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 30 | 52 | 10001480 | B | 28 | G2A1 | 39 | 26.2 | 2 | 128/84 | 62 | CPD | 03:47AM | 440 | 200 | 240 | 11 | 38.6 | 10 | 34.5 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 31 | 53 | 10001282 | A | 24 | G3P1L1A1 | 41.3 | 28.8 | 2 | 110/68 | 88 | PREVIOUS LSCS NOT WILLING FOR VBAC | 23:25PM | 450 | 150 | 300 | 11.4 | 36.8 | 11 | 36 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 32 | 54 | 10001853 | B | 20 | PRIMIGRAVIDA | 39.6 | 25 | 2 | 122/68 | 88 | FETAL DISTRESS | 09:45AM | 520 | 240 | 280 | 8.9 | 30.7 | 8 | 30 | | INJ.OXYTOCIN 20 IU IV ,INJ.METHERGIN 0.2MG IM | 2 | 2 | 1 | 1 | YES | 1 | 2 | 2 |
| 33 | 57 | 10001222 | A | 22 | PRIMIGRAVIDA | 39.1 | 28 | 2 | 140/76 | 78 | THICK MSL | 22:37PM | 300 | 150 | 150 | 12 | 36.2 | 11.6 | 34 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 34 | 58 | 10001272 | A | 25 | G3P1L1A1 | 37.6 | 28.4 | 2 | 122/70 | 74 | PREVIOUS LSCS NOT WILLING FOR VBAC | 23:22PM | 400 | 300 | 100 | 12.1 | 38.3 | 9.7 | 30 | | INJ.OXYTOCIN 20 IU IV GIVEN | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 35 | 59 | 10002005 | B | 30 | G4P1L1A2 | 37.1 | 24 | 1 | 100/68 | 98 | PREVIOUS LSCS PREVIOUS HYSTEROTOMY | 17:47PM | 330 | 100 | 230 | 12.2 | 36.7 | 11 | 35.7 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 36 | 60 | 10001393 | A | 23 | PRIMIGRAVIDA | 38.5 | 26 | 2 | 118/76 | 90 | SEVERE OLIGOHYDRAMNIOS | 16:43PM | 350 | 210 | 140 | 10.1 | 34.3 | 9.8 | 34 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 37 | 62 | 10002060 | B | 22 | PRIMIGRAVIDA | 39.2 | 24.8 | 2 | 130/76 | 78 | CPD | 12:52AM | 400 | 200 | 200 | 11.2 | 30.2 | 10.8 | 30 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 38 | 63 | 10001549 | A | 27 | G3P2L2 | 38.6 | 25.5 | 2 | 148/90 | 98 | PROLONGED PROM | 05:05AM | 350 | 200 | 150 | 11.4 | 38 | 11 | 37.5 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 39 | 67 | 10001681 | A | 29 | G2P1L1 | 38.5 | 30.3 | 2 | 132/76 | 78 | PREVIOUS LSCS WITH H/O PELVIC FRACTURE | 09:57AM | 350 | 100 | 200 | 10.1 | 34.3 | 9.6 | 32.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 40 | 73 | 10001690 | A | 25 | G2P1L1 | 38.5 | 27.6 | 2 | 124/68 | 78 | BREECH IN LABOUR | 15:51PM | 330 | 120 | 210 | 12.4 | 36 | 11.3 | 37.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 41 | 75 | 10001822 | B | 24 | G2A1 | 40 | 26 | 2 | 114/78 | 82 | CPD | 02:09AM | 500 | 260 | 240 | 12 | 36.2 | 11.8 | 35.8 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 42 | 77 | 10001798 | A | 38 | PRIMIGRAVIDA | 36.5 | 29 | 1 | 150/98 | 102 | CHRONIC HTN WITH PRECIOUS PREGNANCY | 12:00PM | 450 | 250 | 200 | 11.5 | 34.6 | 10 | 30 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 43 | 79 | 10001892 | B | 33 | G3P2L2 | 39.3 | 27.6 | 2 | 138/90 | 86 | THICK MSL | 06:06AM | 400 | 200 | 200 | 12.6 | 32 | 11.8 | 30 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 44 | 82 | 10002329 | A | 26 | G4P3L3 | 39.6 | 24.3 | 2 | 128/78 | 108 | PREVIOUS LSCS NOT WILLING FOR VBAC | 22:23PM | 550 | 300 | 250 | 10.9 | 38.2 | 8.5 | 30.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 45 | 83 | 10002179 | A | 27 | G2P1L1 | 39.6 | 22.8 | 2 | 120/80 | 86 | FETAL DISTRESS | 04:20AM | 320 | 150 | 170 | 12.4 | 37.2 | 12 | 36 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 46 | 86 | 10002085 | A | 24 | PRIMIGRAVIDA | 40.1 | 26.4 | 2 | 126/78 | 82 | LATE ONSET FGR WITH FAILED INDUCTION | 19:20PM | 350 | 150 | 200 | 13 | 39.8 | 12.5 | 40.2 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 47 | 87 | 10002180 | A | 25 | G2P1L1 | 37 | 23.7 | 2 | 122/80 | 86 | PREVIOUS LSCS IN LABOUR | 12:39AM | 350 | 150 | 200 | 12.8 | 32.3 | 12.3 | 32 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 48 | 88 | 10002279 | A | 23 | G2P1L1 | 40.2 | 28.9 | 2 | 124/80 | 86 | FETAL DISTRESS | 09:44AM | 450 | 200 | 250 | 11.5 | 36 | 11.2 | 35.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 49 | 89 | 10002355 | B | 33 | G2P1L1 | 38.4 | 27.3 | 2 | 110/72 | 102 | PREVIOUS LSCS IN LABOUR | 01:18AM | 500 | 250 | 250 | 11.7 | 36.3 | 10.3 | 35.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 50 | 91 | 10002268 | B | 31 | PRIMIGRAVIDA | 40.5 | 22 | 2 | 126/78 | 92 | FETAL DISTRESS | 23:25PM | 550 | 250 | 300 | 12.4 | 34 | 10.6 | 32 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 51 | 95 | 10002344 | B | 22 | PRIMIGRAVIDA | 40.3 | 29.4 | 2 | 120/82 | 98 | FAILED INDUCTION | 23:21PM | 350 | 150 | 200 | 10.7 | 38 | 9.9 | 36.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 52 | 97 | 10002812 | B | 23 | PRIMIGRAVIDA | 38.3 | 25 | 1 | 116/78 | 78 | FETAL DISTRESS | 19:52PM | 400 | 150 | 250 | 9.4 | 36 | 8.9 | 30 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 1 | NONE | 2 | 2 | 2 |
| 53 | 98 | 10002986 | B | 22 | G2P1L1 | 37.3 | 28 | 2 | 132/78 | 88 | PREVIOUS LSCS IN LABOUR | 20:37PM | 350 | 150 | 200 | 10.6 | 32.7 | 10 | 32 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 54 | 99 | 10002610 | A | 25 | G2P1L1 | 37.6 | 27.7 | 2 | 126/82 | 94 | THICK MSL | 07:07AM | 420 | 220 | 200 | 10.5 | 35.9 | 9.6 | 33.3 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |

| S.no | SCREENING NO. | IP NUMBER | Intervention group (A - CARBETOCIN / B - OXYTO | AGE(years) | SCORE | Gestational age AT DELIVERY(weeks and days) | BMI(kg/m2) | Pallor | SBP\DBP | PR | INDICATIONS FOR LSCS | Baby birth time | Blood loss(ml) | Mops used x 30 ml = blood loss | Suction bottle (ml) | Pre op HB (mg/dl) | Pre op hematocrit | Post op HB (mg/dl) | Post op hematocrit | POST PARTUM HEMORRHAGE (BLOOD LOSS > 10 | MEDICAL MANAGEMENT - ADDITIONAL UTEROT | HAYMAN'S STITCH( 1- YES / 2- NO) | B LYNCH( 1- YES / 2- NO) | UTERINE ARTERY LIGATION ( 1- YES / 2- NO) | Need for blood transfusion( 1 - yes / 2 - no) | POST OP COMPLICATIONS | Fever | ICU admission | others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 100 | 10002709 | A | 23 | G2P1L1A1 | 41.5 | 25 | 2 | 124/76 | 88 | POSTDATISM WITH THICK MSL | 21:35PM | 380 | 180 | 200 | 13.9 | 38 | 11.7 | 36.4 | | INJ.OXYTOCIN 20IU IV, INJ METHERGIN 0.2MG IM | 1 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 56 | 103 | 10002966 | A | 28 | G4P1L1A2 | 39.1 | 31.2 | 2 | 130/78 | 76 | FAILED INDUCTION | 17:15PM | 300 | 150 | 150 | 11 | 38.5 | 10.5 | 37 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 57 | 104 | 10002930 | A | 26 | PRIMIGRAVIDA | ` | 23.4 | 2 | 110/84 | 88 | BREECH IN LABOUR | 12:40PM | 530 | 210 | 320 | 12.6 | 40.8 | 11 | 38 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 58 | 105 | 10003040 | B | 27 | G3P1L1A1 | 39.3 | 29.7 | 2 | 114/78 | 98 | THICK MSL | 03:14AM | 490 | 240 | 250 | 12.4 | 36.2 | 10.8 | 34.8 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 59 | 106 | 10034821 | B | 28 | PRIMIGRAVIDA | 37.2 | 23.2 | 2 | 100/60 | 66 | NON REASSURING NST | 02:19AM | 500 | 250 | 250 | 10.9 | 34.8 | 10 | 33.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 60 | 108 | 10032698 | B | 19 | PRIMIGRAVIDA | 39.2 | 24.9 | 1 | 100/82 | 92 | THICK MSL | 11:00AM | 700 | 450 | 250 | 10.1 | 30.9 | 8.5 | 28 | | INJ.OXYTOCIN 20 IU IV INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 1 | NONE | 2 | 1 | 2 |
| 61 | 109 | 10003980 | B | 24 | G2A1 | 37.4 | 27 | 2 | 122/84 | 90 | SEVERE OLIGOHYDRAMNIOS | 03:39AM | 450 | 250 | 200 | 10 | 33.2 | 9.2 | 30.6 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 62 | 110 | 10004948 | A | 32 | PRIMIGRAVIDA | 40.1 | 24.8 | 1 | 132/78 | 86 | OLIGOHYDRAMNIOS WITH FETAL DISTRESS | 18:35PM | 520 | 270 | 250 | 10.2 | 34.6 | 9.8 | 33.8 | | INJ.OXYTOCIN 10 IU IV , INJ.METHERGIN 0.2MG IM | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 63 | 112 | 10004939 | A | 21 | PRIMIGRAVIDA | 39.4 | 25.6 | 2 | 122/76 | 86 | CDMR | 22:07PM | 250 | 150 | 100 | 11.4 | 36.4 | 10.2 | 35.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 64 | 116 | 10005097 | A | 31 | G2P1L1 | 37.6 | 28.2 | 2 | 128/62 | 96 | PREVIOUS LSCS IN LABOUR | 07:10AM | 300 | 270 | 30 | 11.9 | 34.8 | 10.8 | 34 | | INJ.OXYTOCIN 10 IU, INJ.CARBOPROST 250MCG I.M | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 65 | 117 | 10005101 | A | 20 | G3A2 | 37.2 | 23.9 | 2 | 110/62 | 98 | DEEP TRANSVERSE ARREST | 11:58AM | 600 | 350 | 250 | 13.9 | 36.2 | 10.6 | 30.9 | | INJ.OXYTOCIN 20 IU IV , INJ.METHERGIN 0.2MG IM | 1 | 2 | 2 | 1 | NONE | 2 | 2 | 2 |
| 66 | 118 | 10005119 | A | 22 | G2P1L1 | 40.3 | 28.3 | 2 | 108/70 | 68 | PREVIOUS LSCS IN LABOUR | 10:19AM | 400 | 210 | 190 | 11.8 | 36.2 | 9.2 | 30.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 67 | 119 | 10005228 | A | 30 | G2P1L1 | 40.4 | 24.6 | 2 | 138/62 | 88 | PREVIOUS LSCS IN LABOUR | 20:23PM | 320 | 180 | 140 | 13.3 | 30.2 | 11.6 | 28.2 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 68 | 121 | 10005372 | B | 18 | PRIMIGRAVIDA | 38.6 | 29.2 | 2 | 124/80 | 82 | CDMR | 08:11AM | 400 | 200 | 200 | 12.8 | 36.2 | 12 | 35.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 69 | 123 | 10005389 | B | 25 | G3P1L1A1 | 37.2 | 28.6 | 2 | 116/78 | 88 | PREVIOUS LSCS IN LABOUR | 09:57AM | 500 | 210 | 290 | 9.9 | 30.6 | 8.5 | 29.7 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 1 | 1 | NONE | 2 | 2 | 2 |
| 70 | 124 | 10052151 | A | 25 | PRIMIGRAVIDA | 39.4 | 28.6 | 2 | 112/76 | 84 | IUGR WITH NON REASSURING NST | 04:48AM | 300 | 120 | 180 | 12.5 | 34.6 | 11.6 | 32 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 71 | 127 | 10005175 | B | 27 | G3P1L1A1 | 37.2 | 30.8 | 2 | 114/78 | 86 | PREVIOUS LSCS IN LABOUR | 15:05PM | 440 | 200 | 240 | 13.8 | 38.2 | 12.5 | 35 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 72 | 128 | 10005340 | B | 20 | PRIMIGRAVIDA | 38.3 | 24.8 | 2 | 118/70 | 84 | CDMR | 10:38AM | 350 | 300 | 50 | 11.1 | 35.2 | 10.2 | 33.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 73 | 129 | 10005642 | B | 30 | PRIMIGRAVIDA | 36.6 | 27.3 | 2 | 138/96 | 88 | FAILED INDUCTION | 11:59AM | 200 | 100 | 100 | 9.8 | 30.8 | 9 | 29.6 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 74 | 131 | 10098321 | A | 39 | G2A1 | 37.2 | 25 | 2 | 130/90 | 88 | CDMR | 10:30AM | 450 | 300 | 150 | 12.1 | 38.9 | 11.5 | 35 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 75 | 132 | 10004195 | A | 30 | G3A2 | 36.6 | 23.8 | 2 | 112/78 | 86 | OVERT DM | 11:06AM | 450 | 240 | 160 | 12 | 30.2 | 11.8 | 30 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 76 | 134 | 10005660 | A | 32 | PRIMIGRAVIDA | 38.5 | 24.9 | 2 | 140/88 | 82 | THICK MSL | 23:02PM | 340 | 200 | 140 | 12.8 | 38.6 | 10.7 | 35.2 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 77 | 136 | 10005703 | A | 38 | G2P1L1 | 39.4 | 28.2 | 2 | 112/78 | 96 | PREVIOUS LSCS IN LABOUR | 20:10PM | 390 | 240 | 150 | 11.6 | 28.1 | 10 | 28 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 78 | 137 | 10005633 | B | 36 | G3P2L2 | 39.3 | 26.3 | 2 | 100/60 | 68 | NON PROGRESS OF LABOUR | 13:03PM | 400 | 150 | 250 | 10.8 | 32.8 | 10 | 31.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 1 | 2 | 2 |
| 79 | 139 | 10005724 | A | 27 | G4P1L1A2 | 39 | 25.3 | 2 | 138/98 | 82 | PREVIOUS LSCS IN LABOUR | 11:19AM | 350 | 150 | 200 | 11.7 | 34.9 | 10.6 | 34.2 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 80 | 141 | 10008939 | A | 27 | G3P1L1A1 | 38.3 | 23.8 | 2 | 120/78 | 78 | BREECH IN LABOUR | 18:38PM | 330 | 200 | 130 | 10.1 | 35.2 | 9.5 | 33.3 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 81 | 142 | 10008758 | A | 24 | PRIMIGRAVIDA | 39.5 | 23.5 | 2 | 118/76 | 84 | THIN MSL AND FETAL DISTRESS | 12:09PM | 390 | 250 | 140 | 11.4 | 36.4 | 10 | 34.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 82 | 144 | 10008935 | A | 20 | G2P1L1 | 39 | 28.1 | 2 | 130/76 | 84 | LATE ONSET FGR WITH INCREASED RESISTANCE ON DOPPLER | 15:09PM | 500 | 250 | 250 | 10.6 | 33.8 | 9.8 | 30.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 83 | 146 | 10088821 | B | 31 | G3P1L1A1 | 37.6 | 25.2 | 2 | 110/74 | 88 | PREVIOUS LSCS IN LABOUR | 07:02AM | 250 | 100 | 150 | 12 | 32.6 | 11.4 | 30.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 84 | 147 | 10005600 | B | 25 | PRIMIGRAVIDA | 38.5 | 20 | 2 | 130/80 | 82 | FETAL DISTRESS | 20:54PM | 210 | 110 | 100 | 10.1 | 30.9 | 9.8 | 28.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 85 | 148 | 10005843 | B | 29 | PRIMIGRAVIDA | 37.6 | 25.6 | 2 | 110/70 | 82 | FETAL DISTRESS | 12:57PM | 450 | 250 | 200 | 11.1 | 32.8 | 10.2 | 26.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 86 | 150 | 10005901 | B | 23 | G2P1L1 | 38.2 | 23.9 | 2 | 126/88 | 68 | PREVIOUS LSCS IN LABOUR | 23:55PM | 250 | 100 | 150 | 11 | 30 | 10.2 | 29.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 87 | 151 | 10005628 | B | 22 | PRIMIGRAVIDA | 37.5 | 22.6 | 1 | 118/96 | 98 | FAILED INDUCTION | 12:11AM | 380 | 180 | 200 | 9.9 | 28.9 | 8.5 | 29.8 | | INJ.OXYTOCIN 10 IU IV ,INJ.CARBOPROST 250MCG I.M | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 88 | 152 | 10009179 | A | 24 | G2P1D1 | 37.3 | 21.9 | 2 | 138/90 | 86 | NON PROGRESS OF LABOUR | 22:30PM | 300 | 120 | 180 | 11.7 | 34.8 | 10.6 | 32.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 89 | 153 | 10067821 | B | 30 | G2A1 | 38.6 | 27.5 | 2 | 126/76 | 68 | TRANSVERSE LIE | 18:28PM | 350 | 150 | 200 | 12.8 | 34.8 | 11 | 32.9 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 90 | 154 | 10072456 | B | 27 | G5P2L2A2 | 40 | 24.9 | 2 | 108/70 | 88 | PREVIOUS 2 LSCS | 17:56PM | 450 | 200 | 250 | 10.7 | 31.9 | 10.1 | 30.2 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 91 | 156 | 10005908 | B | 26 | G2P1L1 | 39.3 | 23.8 | 2 | 118/70 | 80 | PREVIOUS LSCS NOT WILLING FOR VBAC | 12:32AM | 200 | 100 | 100 | 10.4 | 32.8 | 9.9 | 31.2 | | INJ.METHERGIN 0.2MG IM | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 92 | 158 | 10005900 | B | 36 | G2P1L1 | 37.6 | 26.4 | 2 | 128/90 | 102 | PREVIOUS LSCS NOT WILLING FOR VBAC | 16:16PM | 520 | 400 | 120 | 11.6 | 37.8 | 10.2 | 32.8 | | INJ.OXYTOCIN 20IU IV, INJ CARBOPROST 250MCG IM | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 93 | 162 | 10007221 | B | 26 | PRIMIGRAVIDA | 38.2 | 24.9 | 2 | 140/78 | 68 | BREECH IN LABOUR | 11:54AM | 690 | 400 | 290 | 11.3 | 36.2 | 9.2 | 30.7 | | INJ.OXYTOCIN 10 IU IV, INJ.METHERGIN 0.2MG IM | 2 | 1 | 1 | 2 | NONE | 2 | 2 | 2 |
| 94 | 164 | 10010784 | B | 27 | PRIMIGRAVIDA | 40.4 | 26.3 | 2 | 126/78 | 88 | FETAL DISTRESS | 10:21AM | 280 | 200 | 80 | 12.8 | 39 | 12 | 37.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 95 | 167 | 10010362 | A | 23 | PRIMIGRAVIDA | 39.1 | 27.9 | 2 | 116/78 | 84 | NON PROGRESS OF LABOUR | 16:50PM | 300 | 180 | 120 | 12.2 | 36.5 | 11 | 33.3 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 96 | 169 | 10010770 | B | 29 | PRIMIGRAVIDA | 37.3 | 30.8 | 2 | 122/78 | 86 | CPD | 19:10PM | 380 | 180 | 200 | 10.2 | 38.1 | 9.5 | 35.5 | | INJ.CARBOPROST 250MCG IM, INJ OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | YES | 1 | 2 | 2 |
| 97 | 172 | 10012286 | B | 26 | G3P2L2 | 39.5 | 22.7 | 1 | 118/78 | 92 | SHORT STATURE | 20:47PM | 410 | 300 | 110 | 11.8 | 33.9 | 10.2 | 32.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 98 | 177 | 10011261 | B | 35 | PRIMIGRAVIDA | 37.1 | 21.8 | 2 | 129/80 | 98 | NON REASSURING NST | 12:33PM | 300 | 150 | 150 | 10.5 | 32 | 9.8 | 30.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 99 | 178 | 10011615 | B | 26 | G4P2L2A1 | 39.5 | 29.9 | 2 | 118/74 | 86 | PREVIOUS 2 LSCS | 01:26AM | 350 | 240 | 110 | 10.7 | 30.9 | 9.6 | 26.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 100 | 179 | 10010912 | A | 37 | G3P2L2 | 37.6 | 25.9 | 2 | 136/98 | 78 | PREVIOUS LSCS IN LABOUR | 04:33AM | 420 | 240 | 180 | 12 | 35.5 | 10.6 | 30.9 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 101 | 181 | 10011514 | B | 29 | PRIMIGRAVIDA | 40 | 30.1 | 2 | 126/82 | 88 | THICK MSL | 03:51AM | 250 | 150 | 100 | 13.1 | 40.7 | 11.9 | 38.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 102 | 183 | 10011555 | B | 24 | G3P1L1A1 | 38.3 | 22.7 | 2 | 110/70 | 84 | PREVIOUS LSCS IN LABOUR | 10:21AM | 250 | 100 | 150 | 10.3 | 33.3 | 9.8 | 28.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 103 | 184 | 10011142 | A | 21 | G2A1 | 37.4 | 22.2 | 2 | 120/78 | 66 | OVERT DM | 10:10AM | 300 | 180 | 120 | 11.2 | 30.8 | 9.2 | 30.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 104 | 186 | 10012409 | A | 21 | PRIMIGRAVIDA | 37.6 | 25.9 | 1 | 110/84 | 90 | FETAL DISTRESS | 12:15AM | 350 | 150 | 200 | 12.8 | 33.3 | 11.5 | 32.7 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 105 | 187 | 10012497 | A | 21 | PRIMIGRAVIDA | 39.5 | 27.3 | 2 | 134/88 | 64 | FAILED INDUCTION | 16:16PM | 300 | 140 | 160 | 11.9 | 30.3 | 10.3 | 28.8 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 106 | 188 | 10012660 | A | 28 | G2A1 | 40.1 | 23.6 | 2 | 104/62 | 84 | THICK MSL | 18:00 PM | 320 | 120 | 200 | 10.8 | 30.3 | 9.6 | 28.8 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 107 | 190 | 10012019 | B | 21 | PRIMIGRAVIDA | 38.4 | 21.9 | 2 | 108/70 | 76 | FETAL DISTRESS | 17:31PM | 550 | 250 | 200 | 12.6 | 30.2 | 11.2 | 30 | | INJ OXYTOCIN 10 IU IV ,INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 108 | 191 | 10012449 | B | 28 | PRIMIGRAVIDA | 40.1 | 28.8 | 2 | 126/84 | 88 | NON REASSURING NST | 11:31AM | 390 | 270 | 120 | 13.1 | 29.9 | 10.6 | 28.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |

| S.no | SCREENING NO. | IP NUMBER | Intervention group (A - CARBETOCIN / B - OXYTO | AGE(years) | SCORE | Gestational age AT DELIVERY(weeks and days) | BMI(kg/m2) | Pallor | SBP\DBP | PR | INDICATIONS FOR LSCS | Baby birth time | Blood loss(ml) | Mops used x 30 ml = blood loss | Suction bottle (ml) | Pre op HB (mg/dl) | Pre op hematocrit | Post op HB (mg/dl) | Post op hematocrit | POST PARTUM HEMORRHAGE (BLOOD LOSS > 10 | MEDICAL MANAGEMENT - ADDITIONAL UTEROT | HAYMAN'S STITCH( 1- YES / 2- NO) | B LYNCH( 1- YES / 2- NO) | UTERINE ARTERY LIGATION ( 1- YES / 2- NO) | Need for blood transfusion( 1- yes / 2 - no) | POST OP COMPLICATIONS | Fever | ICU admission | others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 109 | 195 | 10012631 | A | 33 | PRIMIGRAVIDA | 39 | 27.6 | 2 | 108/72 | 76 | FAILED INDUCTION | 12:34AM | 350 | 150 | 200 | 12.4 | 33.4 | 10.8 | 30.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 110 | 197 | 10012762 | A | 34 | G3P2L2 | 39.5 | 25.4 | 2 | 124/88 | 70 | PREVIOUS LSCS IN LABOUR | 22:25PM | 320 | 120 | 200 | 11.5 | 30.6 | 10.8 | 29.5 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 111 | 199 | 10012674 | A | 26 | PRIMIGRAVIDA | 39.4 | 23.6 | 2 | 108/70 | 82 | FETAL MACROSOMIA | 08:06AM | 270 | 200 | 70 | 11.1 | 27.8 | 10.5 | 28.8 | | NONE | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 112 | 200 | 10012989 | A | 28 | G3P1L1A1 | 38 | 28.7 | 2 | 146/96 | 90 | SEVERE PE | 22:18PM | 400 | 150 | 250 | 11.1 | 34.1 | 10.4 | 32.6 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 113 | 203 | 10013288 | A | 27 | G2P1L1 | 39.1 | 23.7 | 2 | 114/70 | 72 | PREVIOUS LSCS NOT WILLING FOR VBAC | 21:17PM | 350 | 100 | 250 | 12.4 | 35.6 | 11.6 | 30.3 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 114 | 205 | 10012363 | B | 35 | PRIMIGRAVIDA | 40 | 24.2 | 2 | 122/70 | 82 | CDMR | 12:30PM | 250 | 100 | 150 | 13.7 | 38.2 | 10.8 | 33.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 115 | 206 | 10012439 | B | 21 | G2A1 | 38.6 | 28.9 | 2 | 112/70 | 88 | THIN MSL AND FETAL DISTRESS | 22:51PM | 410 | 240 | 170 | 13.1 | 30.2 | 12.8 | 27.2 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | YES | 1 | 2 | 2 |
| 116 | 211 | 10013639 | B | 26 | G4P1L1A2 | 38 | 23.7 | 1 | 118/72 | 98 | SEVERE OLIGOHYDRAMNIOS | 06:18AM | 560 | 300 | 260 | 9.8 | 28.8 | 8 | 26.9 | | INJ.OXYTOCIN 20 IU IV , INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 1 | NONE | 2 | 2 | 2 |
| 117 | 212 | 10013345 | A | 24 | PRIMIGRAVIDA | 39.6 | 26.9 | 2 | 106/74 | 92 | FAILED INDUCTION | 05:53AM | 280 | 180 | 100 | 11.2 | 33.6 | 10.8 | 32.2 | | INJ.OXYTOCIN 10 IU IV INJ CARBOPROST 250MCG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 118 | 213 | 10013310 | A | 21 | G2P1L1 | 38.4 | 21.9 | 2 | 112/70 | 88 | PREVIOUS LSCS IN LABOUR | 15:19 PM | 280 | 180 | 100 | 10.5 | 32.6 | 9.8 | 30.2 | | INJ. OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | YES | 1 | 2 | 2 |
| 119 | 215 | 10013531 | A | 28 | PRIMIGRAVIDA | 37.4 | 27.9 | 2 | 122/90 | 82 | NON REASSURING NST | 19:47PM | 350 | 150 | 200 | 12.1 | 36.6 | 11.8 | 35 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 120 | 216 | 10013568 | A | 25 | G2A1 | 39.2 | 29.3 | 2 | 140/90 | 88 | BREECH IN LABOUR | 21:26PM | 600 | 300 | 300 | 11 | 30.6 | 10.6 | 28.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 121 | 218 | 10014001 | B | 29 | G2P1L1 | 37 | 24.9 | 2 | 116/70 | 80 | PREVIOUS LSCS IN LABOUR | 10:15AM | 560 | 250 | 310 | 13.9 | 38.9 | 12.2 | 36.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 122 | 219 | 10013649 | A | 25 | PRIMIGRAVIDA | 40.2 | 26.5 | 2 | 108/72 | 96 | THICK MSL | 11:01AM | 330 | 180 | 150 | 11.7 | 30.2 | 10.8 | 29.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 123 | 223 | 10014175 | B | 20 | PRIMIGRAVIDA | 38.3 | 28.9 | 2 | 110/72 | 88 | SEVERE OLIGOHYDRAMNIOS | 03:41AM | 500 | 300 | 200 | 11.3 | 32.7 | 10.2 | 30.9 | | INJ.OXYTOCIN 10 IU IV INJ.METHERGIN 0.2MG IM | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 124 | 224 | 10013906 | A | 23 | PRIMIGRAVIDA | 38.1 | 22.8 | 1 | 120/98 | 68 | LATE DECELARATION | 17:10PM | 300 | 150 | 150 | 8.4 | 28 | 8 | 27.9 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 1 | NONE | 2 | 2 | 2 |
| 125 | 232 | 10013984 | A | 28 | G2P1L1 | 37.5 | 28.7 | 2 | 132/78 | 98 | PREVIOUS LSCS NOT WILLING FOR VBAC | 16:57PM | 360 | 240 | 120 | 12.5 | 31.6 | 11.2 | 30.4 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 126 | 236 | 10014170 | B | 29 | G3A2 | 38 | 22.2 | 2 | 132/70 | 88 | BAD OBSTETRIC HISTORY | 12:09PM | 400 | 200 | 200 | 11.9 | 32.3 | 10.6 | 30.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 127 | 247 | 10014719 | B | 23 | PRIMIGRAVIDA | 38.1 | 24.9 | 2 | 126/70 | 78 | FETAL DISTRESS | 05:22AM | 460 | 300 | 160 | 13 | 42.1 | 11.5 | 36.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 128 | 249 | 10014326 | B | 28 | G3P1L1A1 | 38 | 28.1 | 2 | 108/72 | 102 | SEVERE OLIGOHYDRAMNIOS | 05:31AM | 350 | 150 | 200 | 11.8 | 32.6 | 10.2 | 31.1 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 129 | 250 | 10014219 | B | 29 | G2P1L1 | 38.2 | 23.3 | 2 | 118/60 | 70 | BREECH IN LABOUR | 02:42AM | 250 | 150 | 100 | 12.1 | 30.7 | 11.8 | 30 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 130 | 252 | 10014052 | A | 27 | PRIMIGRAVIDA | 38.6 | 25.6 | 2 | 122/78 | 88 | FETAL DISTRESS | 06:16AM | 580 | 380 | 200 | 13.9 | 38.9 | 12.8 | 37.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 131 | 254 | 10041494 | B | 32 | G3P2L2 | 40.3 | 28.3 | 2 | 122/84 | 78 | CORD PROLAPSE | 12:19AM | 290 | 200 | 90 | 11.2 | 36.3 | 10.8 | 38 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 132 | 259 | 10041042 | A | 23 | PRIMIGRAVIDA | 37 | 22 | 2 | 122/76 | 68 | CDMR | 03:20PM | 280 | 150 | 120 | 12.8 | 37.8 | 10.2 | 37.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 133 | 266 | 10041677 | A | 36 | G3P2L2 | 37 | 24 | 2 | 128/86 | 84 | FETAL DISTRESS | 05:49PM | 350 | 150 | 200 | 11.9 | 35.2 | 11 | 36 | | INJ.OXYTCOIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 134 | 267 | 10042318 | A | 26 | G3P2L2 | 37.4 | 23 | 1 | 120/78 | 84 | PREVIOUS LSCS NOT WILLING FOR VBAC | 05:35PM | 550 | 150 | 400 | 10.5 | 33.8 | 9.8 | 32.2 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | YES | 2 | 2 | WOUND INFECTION |
| 135 | 268 | 10042068 | A | 27 | PRIMIGRAVIDA | 40.4 | 26 | 2 | 114/76 | 82 | CPD | 07:37PM | 250 | 120 | 130 | 11.9 | 32.9 | 11 | 32.9 | | INJ.OXYTCOIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 136 | 269 | 10041681 | B | 37 | G3P1L1A1 | 38.4 | 24.2 | 2 | 128/86 | 78 | PREVIOUS LSCS NOT WILLING FOR VBAC | 11:45PM | 450 | 200 | 250 | 11.8 | 38.9 | 9.2 | 31 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | YES | 1 | 2 | 2 |
| 137 | 270 | 10041763 | B | 21 | PRIMIGRAVIDA | 39.4 | 24.5 | 2 | 118/78 | 76 | PERSISTENT FETAL TACHYCARDIA | 01:18AM | 500 | 270 | 230 | 9.2 | 28.7 | 8.5 | 27.6 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 138 | 272 | 10040923 | B | 31 | PRIMIGRAVIDA | 38.5 | 22.8 | 2 | 120/88 | 78 | CDMR | 02:04PM | 420 | 200 | 220 | 11.3 | 38.2 | 10.9 | 34.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 139 | 273 | 10042335 | A | 26 | PRIMIGRAVIDA | 39.3 | 23 | 2 | 108/68 | 74 | SEVERE OLIGOHYDRAMNIOS | 11:50PM | 350 | 150 | 200 | 11.7 | 36.6 | 10.5 | 35.9 | | INJ.OXYTOCIN 20 IU IV , INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 140 | 274 | 10042547 | A | 26 | G3P2L1D1 | 34.2 | 21 | 1 | 128/80 | 124 | ABRUPTIO PLACENTA | 08:20PM | 2000 | 600 | 1400 | 6.7 | 28.9 | 8.2 | 29.9 | YES | INJ.OXYTOCIN 20 IU IV,INJ METHERGIN 0.2MG IM | 1 | 2 | 2 | 1 | YES | 1 | 1 | 2 |
| 141 | 275 | 10040539 | B | 23 | G3P2L2 | 38.4 | 26 | 2 | 122/80 | 76 | LOW LYING PLACENTA | 05:21PM | 320 | 120 | 200 | 12.2 | 38.2 | 11.5 | 35.5 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 142 | 282 | 10041168 | B | 22 | PRIMIGRAVIDA | 35.8 | 24.8 | 2 | 116/78 | 88 | BREECH IN LABOUR | 06:50PM | 600 | 250 | 350 | 13.2 | 34.9 | 12 | 36.6 | | INJ.OXYTOCIN 10 IU IV, INJ.METHERGIN 0.2MG IM | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 143 | 289 | 10046785 | A | 28 | PRIMIGRAVIDA | 37.5 | 27.6 | 2 | 126/84 | 76 | BREECH IN LABOUR | 12:43PM | 240 | 120 | 120 | 10.8 | 32.2 | 10 | 30.8 | | INJ.OXYTOCIN 10 IU IV INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 144 | 290 | 10047395 | A | 36 | PRIMIGRAVIDA | 37.2 | 26 | 2 | 118/82 | 94 | FETAL DISTRESS | 03:!0PM | 450 | 150 | 300 | 12.4 | 34 | 11.2 | 35.6 | | INJ.CARBOPROST 250MCG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 145 | 291 | 10043292 | B | 31 | PRIMIGRAVIDA | 40.2 | 25.8 | 2 | 122/76 | 88 | SEVERE OLIGOHYDRAMNIOS | 08:43PM | 520 | 320 | 200 | 11.2 | 38.2 | 10.8 | 36.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 146 | 292 | 10047543 | A | 24 | G4P2L2 | 36.6 | 24 | 2 | 116/78 | 82 | PREVIOUS 2 LSCS | 04:14PM | 240 | 150 | 90 | 13.2 | 35.2 | 12.5 | 34.6 | | NONE | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 147 | 299 | 10042280 | B | 32 | G2P1L1 | 40.2 | 28.1 | 2 | 112/76 | 80 | PREVIOUS LSCS IN LABOUR NOT W/F VBAC | 09:34PM | 650 | 300 | 350 | 11.2 | 36.6 | 10.8 | 34.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 148 | 301 | 10047649 | A | 22 | PRIMIGRAVIDA | 37.2 | 23 | 2 | 122/78 | 82 | SEVERE OLIGOHYDRAMNIOS | 11:23PM | 510 | 240 | 270 | 11.8 | 32.4 | 10.6 | 34.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 149 | 308 | 10043001 | B | 28 | PRIMIGRAVIDA | 36.6 | 28.1 | 2 | 126/70 | 82 | FETAL DISTRESS | 11:00PM | 680 | 270 | 410 | 13.2 | 39 | 11.8 | 36.2 | | INJ OXYTOCIN 20 IU IV, INJ.CARBOPROST 250MCG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 150 | 310 | 10047717 | A | 23 | PRIMIGRAVIDA | 39.3 | 26.9 | 2 | 124/78 | 72 | SEVERE OLIGOHYDRAMNIOS | 12:02AM | 350 | 150 | 200 | 12.6 | 34.2 | 10.8 | 33.3 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 151 | 316 | 10047840 | A | 30 | G2A1 | 37.6 | 24.5 | 2 | 116/78 | 76 | PREVIOUS LSCS NOT WILLING FOR VBAC | 05:45pm | 250 | 150 | 100 | 13.4 | 35.1 | 12.8 | 34.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 152 | 318 | 10046791 | A | 26 | PRIMIGRAVIDA | 38.2 | 24 | 2 | 108/84 | 98 | NON PROGRESS OF LABOUR | 04:22PM | 240 | 150 | 100 | 9.5 | 33 | 9.2 | 32.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 153 | 321 | 10043001 | B | 26 | PRIMIGRAVIDA | 40.2 | 30.2 | 2 | 140/70 | 88 | OLIGOHYDRAMNIOS | 12:46AM | 280 | 140 | 140 | 12.1 | 36.2 | 11.8 | 35.8 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 154 | 322 | 10048037 | A | 26 | G2P1L1 | 39.3 | 24.2 | 2 | 116/70 | 86 | PREVIOUS LSCS NOT WILLING FOR VBAC | 05:55AM | 280 | 150 | 130 | 14 | 35.5 | 13.5 | 34.4 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 155 | 329 | 10047699 | A | 25 | G2A1 | 36.4 | 27.9 | 2 | 180/98 | 92 | SEVERE PRE ECLAMPSIA | 06:19AM | 740 | 300 | 440 | 12.8 | 37.2 | 10.2 | 35.4 | | INJ.OXYTOCIN 20 IU IV | 1 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 156 | 330 | 10043366 | B | 30 | G2P1L1 | 39.4 | 28 | 2 | 146/78 | 70 | PREVIOUS LSCS IN LABOUR | 03:01AM | 500 | 240 | 260 | 11.1 | 36.8 | 10.5 | 34.2 | | INJ OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 157 | 331 | 10043306 | B | 21 | G2P1L1 | 39.2 | 26.2 | 2 | 132/76 | 88 | PREVIOUS LSCS NOT WILLING FOR VBAC | 06:31AM | 280 | 180 | 100 | 10.6 | 32.8 | 10 | 30.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 158 | 332 | 10043620 | B | 21 | PRIMIGRAVIDA | 35 | 28.6 | 2 | 148/90 | 92 | BREECH IN LABOUR | 02:29AM | 250 | 150 | 100 | 9.8 | 29.8 | 9.2 | 29.9 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 159 | 339 | 10043593 | B | 30 | G4P2L2A1 | 36.2 | 26.6 | 2 | 112/78 | 82 | PREVIOUS 2 LSCS IN LABOUR | 03:37AM | 580 | 300 | 280 | 8.5 | 28.8 | 7.9 | 28 | | INJ.OXYTOCIN 10 IU IV INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 1 | NONE | 2 | 2 | 2 |
| 160 | 340 | 10043551 | B | 27 | G3P1L1A1 | 38.4 | 24.5 | 2 | 118/72 | 86 | PREVIOUS LSCS IN LABOUR | 10:41AM | 400 | 240 | 160 | 12.4 | 34.9 | 11.8 | 36.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 161 | 342 | 10043287 | B | 29 | G2P1L1 | 38.2 | 26.1 | 2 | 122/76 | 88 | PREVIOUS LSCS IN LABOUR | 17:11 PM | 350 | 300 | 50 | 11.7 | 36.8 | 10.8 | 34.2 | | INJ.OXYTOCIN 20 IU IV , INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 162 | 344 | 10043699 | B | 26 | PRIMIGRAVIDA | 37.1 | 24.3 | 2 | 130/78 | 66 | CDMR | 11:23PM | 220 | 120 | 100 | 10.5 | 34.2 | 9.2 | 33.3 | | INJ.OXYTCOIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |

| S.no | SCREENING NO. | IP NUMBER | Intervention group (A - CARBETOCIN / B - OXYTO | AGE(years) | SCORE | Gestational age AT DELIVERY(weeks and days) | BMI(kg/m2) | Pallor | SBP\DBP | PR | INDICATIONS FOR LSCS | Baby birth time | Blood loss(ml) | Mops used x 30 ml = blood loss | Suction bottle (ml) | Pre op HB (mg/dl) | Pre op hematocrit | Post op HB (mg/dl) | Post op hematocrit | POST PARTUM HEMORRHAGE (BLOOD LOSS > 10 | MEDICAL MANAGEMENT - ADDITIONAL UTEROT | HAYMAN'S STITCH( 1- YES / 2- NO) | B LYNCH( 1- YES / 2- NO) | UTERINE ARTERY LIGATION ( 1- YES / 2- NO) | Need for blood transfusion( 1 - yes / 2 - no) | POST OP COMPLICATIONS | Fever | ICU admission | others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 163 | 348 | 10047723 | A | 22 | G2P1L1 | 38.6 | 23.8 | 1 | 126/70 | 96 | PROLONGED PROM | 09:28AM | 380 | 240 | 140 | 9.6 | 28.9 | 8 | 28.2 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 1 | NONE | 2 | 2 | 2 |
| 164 | 349 | 10048155 | A | 31 | G2A1 | 37.2 | 29.6 | 1 | 100/60 | 108 | ABRUPTIO PLACENTA | 01:13PM | 560 | 300 | 260 | 13.9 | 38.2 | 11 | 36.6 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 165 | 353 | 10097344 | A | 24 | G2P1L1 | 36.2 | 28.5 | 2 | 138/72 | 88 | PREVIOUS LSCS WITH FGR | 07:16PM | 250 | 150 | 100 | 12.1 | 34.7 | 11.8 | 35.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 166 | 354 | 10043758 | B | 22 | PRIMIGRAVIDA | 37 | 27.2 | 2 | 136/70 | 68 | PROLONGED PROM | 11:33AM | 400 | 200 | 200 | 10.4 | 38.2 | 9.8 | 36.8 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 167 | 359 | 10047795 | A | 28 | G4P1L1A2 | 36.4 | 22.5 | 2 | 118/78 | 86 | PREVIOUS LSCS IN LABOUR | 07:59PM | 270 | 150 | 120 | 11.1 | 33.5 | 10.3 | 32.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 168 | 362 | 10048276 | A | 33 | G3P2L2 | 37.2 | 24 | 2 | 116/86 | 88 | PREVIOUS 2 LSCS WITH FGR | 02:16AM | 300 | 150 | 150 | 12.2 | 33.5 | 12.8 | 33 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 169 | 363 | 10043851 | B | 29 | G3P2L1D1 | 39.5 | 21.8 | 2 | 136/78 | 72 | PREVIOUS 2 LSCS | 10:42AM | 560 | 240 | 320 | 11.2 | 35.2 | 10.6 | 34.2 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 170 | 364 | 10048380 | A | 20 | PRIMIGRAVIDA | 37.5 | 24 | 2 | 112/76 | 92 | FETAL DISTRESS | 13:13PM | 300 | 150 | 150 | 13.6 | 33.8 | 12.9 | 32.9 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 171 | 365 | 10044129 | B | 29 | G3P2L2 | 36.3 | 26.5 | 2 | 150/90 | 98 | NON REASSURING NST | 06:20AM | 520 | 200 | 220 | 11.2 | 37.2 | 10.5 | 35.4 | | INJ.CARBOPROST 250MCG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 172 | 366 | 10048886 | A | 28 | G2P1L1 | 38.1 | 27.1 | 2 | 126/74 | 64 | PREVIOUS LSCS WITH SCAR TENDERNESS | 01:28PM | 380 | 150 | 130 | 10.7 | 33.6 | 9.2 | 31.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 173 | 367 | 10048535 | A | 25 | G3P2L1D1 | 36.6 | 24 | 2 | 126/72 | 68 | PREVIOUS LSCS IN LABOUR | 2:30PM | 280 | 240 | 40 | 11.3 | 32.8 | 10.9 | 33.8 | | NONE | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 174 | 368 | 10049354 | A | 30 | G2P1L1 | 38.1 | 28.1 | 2 | 130/78 | 84 | THICK MSL | 11:42AM | 350 | 300 | 50 | 12.6 | 32.2 | 11.8 | 30.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 175 | 369 | 10048577 | A | 29 | G2P1L1 | 38.2 | 26.3 | 2 | 110/76 | 92 | PREVIOUS LSCS NOT WILLING FOR VBAC | 12:20PM | 400 | 200 | 200 | 9.8 | 29 | 9 | 28.7 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 176 | 372 | 10049387 | A | 32 | G2P1L1 | 37.5 | 24.8 | 2 | 132/70 | 80 | PREVIOUS LSCS NOT WILLING FOR VBAC | 01:15AM | 300 | 150 | 150 | 10 | 38.7 | 9.7 | 35.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 177 | 373 | 10044346 | B | 35 | G3P2L1D1 | 38.4 | 28.2 | 2 | 140/90 | 96 | PREVIOUS LSCS WITH INCREASED RESISTANCE ON DOPPLER | 13:43PM | 350 | 100 | 250 | 12.6 | 38.2 | 11.6 | 32.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 178 | 376 | 10044106 | B | 21 | PRIMIGRAVIDA | 38.4 | 22.8 | 2 | 146/76 | 98 | FAILED INDUCTION | 09:20PM | 350 | 250 | 100 | 10.8 | 38.9 | 10.2 | 37.2 | | INJ. OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 179 | 379 | 10049429 | A | 30 | PRIMIGRAVIDA | 40.1 | 23.7 | 2 | 130/86 | 72 | NON REASSURING NST | 03:55PM | 400 | 200 | 200 | 13.3 | 30.9 | 12.4 | 31.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 180 | 381 | 10044341 | B | 23 | G2P1L1 | 40 | 21.9 | 2 | 120/76 | 74 | FAILED INDUCTION | 11:53PM | 350 | 150 | 200 | 13.2 | 37.9 | 11.7 | 36.8 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 181 | 382 | 10049914 | A | 25 | G2P1L1 | 39.3 | 27.1 | 2 | 112/70 | 88 | NON PROGRESS OF LABOUR | 08:17PM | 450 | 200 | 250 | 11.6 | 36.9 | 10.9 | 34.2 | | NONE | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 182 | 383 | 10050188 | A | 34 | PRIMIGRAVIDA | 36.3 | 28.4 | 2 | 128/70 | 86 | PERSISTENT FETAL TACHYCARDIA | 08:08PM | 350 | 180 | 170 | 11.3 | 38.3 | 10.9 | 37.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 183 | 384 | 10050504 | A | 26 | PRIMIGRAVIDA | 38.1 | 25.8 | 2 | 138/72 | 80 | FETAL MACROSOMIA | 09:05PM | 500 | 250 | 250 | 11 | 37.9 | 10.4 | 37 | | INJ. OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 184 | 387 | 10044617 | B | 20 | G3P2L2 | 36.5 | 23.7 | 2 | 128/74 | 84 | PREVIOUS 2 LSCS IN LABOUR | 10:15PM | 600 | 300 | 300 | 10.8 | 36.9 | 9 | 33 | | INJ.OXYTOCIN 20 IU IV INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 1 | NONE | 2 | 2 | 2 |
| 185 | 388 | 10044528 | B | 24 | G3P2L2 | 38.2 | 23.4 | 2 | 118/74 | 82 | PREVIOUS LSCS IN LABOUR | 08:20PM | 400 | 180 | 220 | 14.2 | 40.2 | 13.6 | 38.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 186 | 390 | 10044051 | B | 22 | G2P1L1 | 40.3 | 25.6 | 2 | 122/84 | 78 | FAILED INDUCTION | 03:41PM | 380 | 150 | 230 | 11.6 | 34.2 | 10.5 | 33.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 187 | 394 | 10050521 | A | 26 | G2P1L1 | 38.3 | 28.1 | 1 | 100/56 | 98 | PREVIOUS LSCS IN LABOUR | 10:15PM | 500 | 250 | 250 | 9.6 | 30.9 | 9 | 28.7 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 1 | 1 | YES | 1 | 2 | 2 |
| 188 | 399 | 10090487 | A | 30 | G2P1L1 | 37.3 | 26 | 2 | 140/90 | 92 | ABNORMAL CPR | 02:31AM | 650 | 300 | 350 | 13.9 | 39.8 | 11 | 35.6 | | INJ.CARBOPROST 250MCG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 189 | 403 | 10049273 | A | 30 | PRIMIGRAVIDA | 35.3 | 25.4 | 2 | 160/100 | 90 | UNCONTROLLED HTN | 06:08PM | 500 | 250 | 250 | 11.9 | 38.2 | 10.5 | 35.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 190 | 404 | 10050718 | A | 26 | PRIMIGRAVIDA | 37 | 24 | 2 | 142/92 | 86 | FETAL MACROSOMIA | 07:31PM | 550 | 350 | 200 | 11.4 | 37.8 | 10.8 | 36.2 | | INJ OXYTOCIN 20 IU IV ,INJ CARBOPROST 250MCG IM | 1 | 2 | 2 | 2 | YES | 2 | 2 | WOUND INFECTION |
| 191 | 414 | 10044458 | B | 23 | PRIMIGRAVIDA | 40.2 | 23.5 | 2 | 122/84 | 78 | CPD | 11:16PM | 350 | 150 | 200 | 10.2 | 34.8 | 10 | 34 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 192 | 415 | 10050825 | A | 27 | G3P2L1D1 | 36.4 | 24 | 2 | 132/84 | 82 | PREVIOUS 2 LSCS IN LABOUR | 12:08PM | 300 | 210 | 90 | 12.2 | 38.9 | 11.5 | 35.6 | | INJ OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 193 | 419 | 10051301 | A | 31 | G2P1L1 | 38.2 | 27.8 | 2 | 114/80 | 74 | PREVIOUS LSCS IN LABOUR | 08:42PM | 550 | 350 | 200 | 12.7 | 34.7 | 11 | 32.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 194 | 426 | 10044313 | B | 30 | G2P1L1 | 38.3 | 26.6 | 2 | 110/76 | 88 | PREVIOUS LSCS NOT WILLING FOR VBAC | 01:19PM | 560 | 300 | 260 | 10.8 | 38.7 | 10 | 35.2 | | INJ OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 195 | 427 | 10044360 | A | 28 | PRIMIGRAVIDA | 38.5 | 22.8 | 2 | 132/80 | 68 | FETAL DISTRESS | 12:26PM | 780 | 450 | 330 | 11.3 | 38.3 | 9.8 | 36.6 | | INJ.OXYTOCIN 15 IU IV INJ CARBOPROST 250MCG IM | 2 | 1 | 2 | 1 | NONE | 2 | 2 | 2 |
| 196 | 428 | 10050299 | A | 25 | PRIMIGRAVIDA | 29.3 | 24 | 2 | 110/76 | 82 | LOW LYING PLACENTA | 11:18PM | 250 | 150 | 100 | 11.5 | 34.7 | 10.6 | 33.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 197 | 429 | 10051282 | A | 26 | PRIMIGRAVIDA | 39.1 | 24 | 2 | 110/76 | 84 | THICK MSL | 12:03AM | 350 | 150 | 200 | 10.4 | 33.3 | 10 | 32.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 198 | 430 | 10044753 | B | 31 | PRIMIGRAVIDA | 38.4 | 24.2 | 2 | 136/70 | 62 | PROLONGED PROM | 03:04PM | 450 | 300 | 150 | 12.3 | 36.7 | 11.9 | 34.9 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 199 | 434 | 10051570 | A | 23 | PRIMIGRAVIDA | 41 | 23.3 | 2 | 128/84 | 86 | ANAMNIOS | 09:35PM | 350 | 250 | 100 | 13.2 | 37.2 | 12.4 | 35.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 200 | 441 | 10044662 | B | 23 | PRIMIGRAVIDA | 38.5 | 28.1 | 2 | 132/70 | 96 | FETAL DISTRESS | 06:05PM | 450 | 200 | 250 | 11.8 | 38.2 | 10.6 | 37.4 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 201 | 442 | 10044754 | B | 24 | PRIMIGRAVIDA | 40.6 | 22.8 | 2 | 126/68 | 84 | CPD | 09:16PM | 600 | 300 | 300 | 12.3 | 38 | 10.5 | 34.6 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 202 | 443 | 10041069 | B | 20 | G2A1 | 34.2 | 28.1 | 2 | 138/70 | 96 | CORD PROLAPSE | 11:33AM | 450 | 300 | 150 | 11.4 | 34.8 | 10.5 | 33.3 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 203 | 447 | 10051618 | A | 28 | G2P1L1 | 38.4 | 23.1 | 2 | 130/72 | 82 | PREVIOUS LSCS NOT WILLING FOR VBAC | 10:49PM | 350 | 250 | 100 | 10.8 | 36.5 | 9.7 | 33.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 204 | 448 | 10051624 | A | 32 | G3P1L1A1 | 37.4 | 25.1 | 2 | 122/70 | 102 | FETAL TACHYCARDIA | 12:23AM | 650 | 300 | 350 | 13.5 | 40.3 | 11.8 | 36.6 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 205 | 449 | 10044331 | B | 20 | PRIMIGRAVIDA | 36.5 | 27.2 | 2 | 116/70 | 86 | FETAL DISTRESS | 03:20PM | 780 | 300 | 480 | 11.8 | 38.3 | 8 | 30.8 | | INJ OXYTOCIN 10 IU IV INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 1 | YES | 1 | 2 | 2 |
| 206 | 451 | 10051683 | A | 23 | PRIMIGRAVIDA | 37.6 | 24.1 | 2 | 150/96 | 92 | FETAL DISTRESS | 07:47AM | 300 | 150 | 150 | 9.3 | 29.8 | 8.5 | 32.1 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 207 | 452 | 10044919 | A | 24 | PRIMIGRAVIDA | 40.1 | 27.6 | 2 | 128/70 | 78 | FAILED INDUCTION | 12:46AM | 300 | 150 | 150 | 12.3 | 36.8 | 11.8 | 33.8 | | INJ OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 208 | 456 | 10045071 | B | 31 | G3P1L1A1 | 39.2 | 28.8 | 2 | 132/76 | 78 | SEVERE OLIGOHYDRAMNIOS | 08:17AM | 500 | 240 | 260 | 12.4 | 32.2 | 11 | 30.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 209 | 457 | 10045701 | B | 23 | PRIMIGRAVIDA | 39.4 | 25.6 | 2 | 130/78 | 72 | CDMR | 10:22PM | 600 | 300 | 300 | 11.9 | 37.8 | 10.2 | 35.2 | | INJ METHERGIN 0.2MG IM | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 210 | 460 | 10045416 | B | 28 | G2P1L1 | 39.3 | 24.8 | 2 | 126/76 | 60 | PREVIOUS LSCS NOT WILLING FOR VBAC | 09:06PM | 250 | 150 | 100 | 11.1 | 38.6 | 10.2 | 37.2 | | INJ OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 211 | 461 | 10045426 | B | 27 | G2P1L1 | 39.4 | 26.2 | 2 | 130/76 | 82 | PREVIOUS LSCS NOT WILLING FOR VBAC | 06:30AM | 350 | 200 | 150 | 11.2 | 40.8 | 10.9 | 39.8 | | INJ OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 212 | 462 | 10051827 | A | 24 | G2P1L1 | 39.6 | 24.2 | 2 | 130/78 | 92 | PREVIOUS LSCS NOT WILLING FOR VBAC | 05:54PM | 350 | 150 | 200 | 9.9 | 32.8 | 9 | 30.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 213 | 463 | 10051838 | A | 28 | G3P1L1A1 | 38.4 | 24 | 2 | 122/80 | 82 | THICK MSL | 06:11AM | 300 | 150 | 150 | 9.7 | 30.5 | 9 | 30 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 214 | 474 | 10045474 | B | 21 | PRIMIGRAVIDA | 39.1 | 24.8 | 2 | 128/70 | 88 | BREECH IN LABOUR | 09:46AM | 250 | 100 | 150 | 10.1 | 36.6 | 9.8 | 35 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 215 | 476 | 10051941 | A | 27 | G2P1L1 | 38.2 | 27 | 2 | 124/88 | 86 | PREVIOUS LSCS WITH FGR | 10:45AM | 330 | 180 | 150 | 10.8 | 38.2 | 10 | 37 | | INJOXYTOCIN 10 IU IV INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 216 | 477 | 10045520 | B | 24 | G3P1L1D1 | 39.3 | 21 | 2 | 118/70 | 84 | PREVIOUS 2 LSCS | 11:04AM | 480 | 240 | 240 | 13.8 | 39.8 | 12.5 | 37.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |

| S.no | SCREENING NO. | IP NUMBER | Intervention group (A - CARBETOCIN / B - OXYTO | AGE(years) | SCORE | Gestational age AT DELIVERY(weeks and days) | BMI(kg/m2) | Pallor | SBP\DBP | PR | INDICATIONS FOR LSCS | Baby birth time | Blood loss(ml) | Mops used x 30 ml = blood loss | Suction bottle (ml) | Pre op HB (mg/dl) | Pre op hematocrit | Post op HB (mg/dl) | Post op hematocrit | POST PARTUM HEMORRHAGE (BLOOD LOSS > 10 | MEDICAL MANAGEMENT - ADDITIONAL UTEROT | HAYMAN'S STITCH( 1- YES / 2- NO) | B LYNCH( 1- YES / 2- NO) | UTERINE ARTERY LIGATION ( 1- YES / 2- NO) | Need for blood transfusion( 1 - yes / 2 - no) | POST OP COMPLICATIONS | Fever | ICU admission | others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 217 | 480 | 10045586 | B | 31 | G3P2L2 | 38.4 | 24 | 2 | 112/74 | 82 | PREVIOUS 2 LSCCS | 08:49PM | 560 | 270 | 290 | 9.8 | 34.3 | 9.5 | 33.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 218 | 481 | 10045637 | B | 22 | G2A1 | 39.4 | 23 | 2 | 118/82 | 82 | FETAL DISTRESS | 09:42PM | 420 | 240 | 180 | 13.5 | 39.1 | 12 | 35 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 219 | 483 | 10051328 | A | 29 | G3P2L2 | 37.2 | 28 | 2 | 124/88 | 84 | PREVIOUS 2 LSCS | 10:07AM | 680 | 450 | 230 | 13.6 | 39.1 | 11.5 | 34.9 | | INJOXYTOCIN 20 IU IV INJ METHERGIN0.2MG IM | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 220 | 484 | 10045615 | B | 19 | PRIMIGRAVIDA | 39.6 | 24 | 2 | 116//76 | 80 | THICK MSL | 01:07AM | 540 | 300 | 240 | 13.5 | 40.2 | 12.8 | 35.6 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 221 | 488 | 10045968 | B | 23 | G3P2L2 | 39.1 | 20 | 1 | 108/78 | 82 | PREVIOUS 2 LSCS | 07:05PM | 450 | 250 | 200 | 12.7 | 36.8 | 11.6 | 38.2 | | INJ.OXYTOCIN 20 IU IV INJ METHERGIN 0.2MG IM | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 222 | 489 | 10050891 | A | 21 | G2P1L1 | 38.5 | 24 | 2 | 122/84 | 76 | PREVIOUS LSCS IN LABOUR NOT W/F VBAC | 12:14PM | 250 | 150 | 100 | 12.2 | 34.8 | 12 | 34 | | INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 223 | 490 | 10045603 | B | 20 | G2A1 | 40 | 26 | 2 | 118/78 | 82 | FAILED INDUCTION | 03:27AM | 350 | 200 | 150 | 13.5 | 38.9 | 12.8 | 38 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 224 | 496 | 10045684 | B | 24 | G2P1L1 | 39.5 | 24 | 2 | 118/78 | 70 | PREVIOUS LSCS IN LABOUR | 02:17AM | 450 | 250 | 200 | 14.1 | 40.6 | 12.8 | 37.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 225 | 497 | 10042770 | B | 26 | PRIMIGRAVIDA | 37.1 | 26 | 2 | 118/78 | 82 | FETAL DISTRESS | 11:00PM | 400 | 200 | 200 | 11.1 | 33.9 | 10.8 | 32.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 226 | 498 | 10051931 | A | 25 | G2P1L1 | 37.5 | 24 | 2 | 110/70 | 76 | PREVIOUS LSCS NOT WILLING FOR VBAC | 01:01PM | 250 | 150 | 100 | 12.2 | 34.8 | 12 | 35.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 227 | 499 | 10043039 | B | 26 | PRIMIGRAVIDA | 40 | 27 | 2 | 118/76 | 86 | PROLONGED PROM | 04:30PM | 400 | 200 | 200 | 13.3 | 38.7 | 12.5 | 36.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 228 | 503 | 10045396 | B | 24 | G3P2L1D1 | 39.2 | 25 | 1 | 116/70 | 82 | FAILED INDUCTION | 05:59PM | 520 | 300 | 220 | 8.9 | 30.2 | 8 | 28.7 | | NONE | 2 | 2 | 2 | 1 | NONE | 2 | 2 | 2 |
| 229 | 504 | 10046014 | B | 25 | G3P1L1A1 | 39.1 | 24 | 2 | 120/82 | 86 | BREECH IN LABOUR | 07:35AM | 500 | 250 | 250 | 12.9 | 34.2 | 11.5 | 33.5 | | INJ.METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 230 | 506 | 10045962 | B | 26 | G2E1 | 39.4 | 26 | 2 | 126/80 | 88 | PREVIOUS LSCS IN LABOUR | 03:50PM | 250 | 150 | 100 | 9.5 | 30.9 | 9 | 28.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 231 | 512 | 10052164 | A | 32 | G3P2L1A1 | 39.1 | 24 | 2 | 124/80 | 74 | SEVERE OLIGOHYDRAMNIOS | 09:57PM | 350 | 150 | 200 | 12.4 | 38.7 | 11.5 | 37.9 | | INJ OXYTOCIN 10 IU IV INJ METHERGIN 0.2MG IM | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 232 | 513 | 10052089 | A | 21 | G2P1L1 | 36.5 | 23 | 2 | 110/80 | 76 | PREVIOUS LSCS IN LABOUR | 02:53PM | 400 | 250 | 150 | 10.8 | 36.8 | 10 | 34.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 233 | 521 | 10052337 | A | 28 | PRIMIGRAVIDA | 40.2 | 28 | 2 | 124/82 | 78 | PROLONGED PROM | 02:42PM | 350 | 200 | 150 | 12.7 | 34.9 | 11.8 | 33.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 234 | 522 | 10045756 | B | 26 | PRIMIGRAVIDA | 40.2 | 24 | 2 | 112/74 | 86 | SEVERE OLIGOHYDRAMNIOS | 04:46PM | 400 | 200 | 200 | 12.8 | 39.8 | 12 | 38.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 235 | 524 | 10045971 | B | 23 | PRIMIGRAVIDA | 38.2 | 26 | 2 | 118/76 | 82 | PROLONGED PROM | 06:44PM | 500 | 250 | 250 | 12.4 | 35.5 | 11.8 | 34.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 236 | 525 | 10045376 | B | 26 | PRIMIGRAVIDA | 40.1 | 22 | 2 | 120/82 | 76 | THICK MSL | 09:32PM | 560 | 300 | 260 | 12.1 | 34.8 | 11.5 | 33.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 237 | 529 | 10052317 | A | 24 | G4P3L3 | 39.3 | 28 | 2 | 134/82 | 74 | CORD PROLAPSE | 06:36AM | 480 | 240 | 240 | 11.3 | 37.6 | 11 | 37.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 238 | 530 | 10052320 | A | 22 | G2P1L1 | 38 | 25 | 2 | 114/76 | 84 | PREVIOUS LSCS NOT WILLING FOR VBAC | 09:16AM | 550 | 350 | 200 | 10 | 32.1 | 9.8 | 33.4 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 239 | 533 | 10052453 | A | 26 | PRIMIGRAVIDA | 39.4 | 23 | 2 | 110/80 | 76 | THICK MSL | 06:17AM | 340 | 200 | 140 | 10 | 31.9 | 9.2 | 30.1 | | INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 240 | 537 | 10046028 | B | 23 | PRIMIGRAVIDA | 38.5 | 25 | 2 | 118/80 | 82 | FETAL DISTRESS | 11:35PM | 280 | 180 | 100 | 13.5 | 40.9 | 12.8 | 38.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 241 | 542 | 10045945 | B | 24 | PRIMIGRAVIDA | 40 | 26 | 2 | 120/68 | 92 | PROLONGED PROM | 01:30PM | 400 | 350 | 50 | 11.5 | 36.8 | 10.8 | 34.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 242 | 543 | 10045458 | B | 19 | PRIMIGRAVIDA | 40 | 24 | 1 | 116/74 | 82 | CDMR | 03:31PM | 680 | 300 | 380 | 12.8 | 39.8 | 10.2 | 34.8 | | INJ.OXYTOCIN 20 IU IV INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 243 | 545 | 10052652 | A | 31 | G3P1L1A1 | 39 | 24 | 2 | 120/80 | 70 | PREVIOUS LSCS NOT WILLING FOR VBAC | 01:11PM | 350 | 200 | 150 | 11.6 | 38.9 | 10.5 | 34.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 244 | 546 | 10052694 | A | 27 | G2P1L1 | 40.3 | 23 | 2 | 124/82 | 84 | PREVIOUS LSCS NOT WILLING FOR VBAC | 09:48AM | 300 | 200 | 100 | 11.3 | 34.8 | 11 | 32.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 245 | 549 | 10050727 | A | 22 | G2P1L1 | 37.1 | 24 | 2 | 126/60 | 82 | FETAL MACROSOMIA | 10:53AM | 450 | 300 | 150 | 10.5 | 35.8 | 10 | 34.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 246 | 555 | 10045943 | B | 23 | PRIMIGRAVIDA | 40 | 22 | 2 | 112/70 | 78 | FETAL DISTRESS | 07:28PM | 500 | 260 | 240 | 10.5 | 34.9 | 9.2 | 30.1 | | INJ.OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 247 | 558 | 10046503 | B | 31 | G2P1L1 | 39.6 | 20 | 2 | 114/74 | 84 | PREVIOUS LSCS NOT WILLING FOR VBAC | 04:19PM | 300 | 250 | 50 | 11.8 | 38.2 | 10.9 | 35.6 | | NONE | 2 | 2 | 2 | 2 | YES | 2 | 2 | WOUND INFECTION |
| 248 | 559 | 10046620 | B | 26 | PRIMIGRAVIDA | 40.2 | 24 | 2 | 122/68 | 82 | SEVERE OLIGOHYDRAMNIOS | 02:00AM | 450 | 250 | 200 | 13.8 | 34.6 | 12.5 | 33.3 | | INJ.OXYTOCIN 20 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 249 | 561 | 10051964 | A | 23 | PRIMIGRAVIDA | 39.6 | 25.8 | 2 | 124/82 | 86 | FAILED INDUCTION | 11:44AM | 390 | 270 | 120 | 11.5 | 38.2 | 10 | 35.6 | | NONE | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 250 | 563 | 10051964 | A | 31 | G2P1L1 | 38 | 26 | 2 | 124/80 | 82 | PROLONGED PROM | 12:36PM | 400 | 280 | 120 | 11.3 | 34.8 | 10.8 | 32 | | INJ OXYTOCIN 10 IU IV | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 251 | 565 | 10052376 | A | 28 | G2P1L1 | 38.2 | 29 | 2 | 124/88 | 82 | PREVIOUS LSCS NOT WILLING FOR VBAC | 01:44PM | 300 | 150 | 150 | 12.5 | 36.8 | 11.8 | 35.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 252 | 567 | 10046353 | B | 23 | G2P1L1 | 37.1 | 25 | 2 | 108/70 | 80 | THICK MSL | 01:58pm | 450 | 250 | 200 | 13 | 39 | 12.5 | 37.8 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 253 | 569 | 10046637 | B | 25 | PRIMIGRAVIDA | 39.2 | 24 | 2 | 120/68 | 76 | SEVERE OLIGOHYDRAMNIOS | 04:34PM | 400 | 200 | 200 | 12.8 | 38 | 11.5 | 36.9 | | INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 254 | 573 | 10064489 | B | 27 | PRIMIGRAVIDA | 37.6 | 23.8 | 2 | 126/70 | 72 | CDMR | 10:34PM | 560 | 240 | 320 | 14 | 41.6 | 13.5 | 40 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 255 | 582 | 10053160 | A | 25 | PRIMIGRAVIDA | 38.4 | 23 | 2 | 124/86 | 84 | CDMR | 12:08AM | 200 | 150 | 50 | 12.8 | 38.9 | 12 | 38 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 256 | 587 | 10053184 | A | 27 | PRIMIGRAVIDA | 39.2 | 24 | 2 | 124//82 | 86 | THICK MSL | 11:53AM | 400 | 250 | 150 | 13.9 | 39.2 | 12.5 | 37.2 | | INJ OXYTOCIN 10 IU IV | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 257 | 593 | 10053180 | A | 20 | PRIMIGRAVIDA | 39.4 | 23 | 2 | 120/86 | 92 | NON PROGRESS OF LABOUR | 05:45PM | 250 | 180 | 60 | 12.2 | 35.8 | 12 | 34.2 | | INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 258 | 596 | 10046269 | B | 26 | PRIMIGRAVIDA | 40 | 24 | 2 | 126/70 | 74 | FAILED INDUCTION | 06:46PM | 280 | 180 | 100 | 11.9 | 33.9 | 11 | 30.1 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 259 | 600 | 10046541 | B | 26 | PRIMIGRAVIDA | 38.4 | 23 | 2 | 122/70 | 72 | FAILED INDUCTION | 03:15PM | 300 | 150 | 150 | 10.9 | 34.8 | 10 | 33.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 260 | 605 | 10046954 | B | 25 | G2A1 | 37.2 | 22 | 1 | 180/98 | 98 | IMMINENT ECLAMPSIA | 09:02PM | 600 | 300 | 300 | 9 | 28.1 | 8.5 | 27.9 | | INJ OXYTOCIN 20 IU IV | 1 | 2 | 2 | 1 | YES | 1 | 1 | 2 |
| 261 | 606 | 10053147 | A | 22 | G3A2 | 39.1 | 23.8 | 2 | 118/80 | 86 | THICK MSL | 04:01PM | 280 | 180 | 100 | 11.2 | 38.5 | 10.3 | 35.5 | | INJ OXYTOCIN 10 IU IV INJ METHERGIN 0.2MG IM | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 262 | 607 | 10052883 | A | 25 | G3P2L2 | 37.1 | 25.6 | 2 | 124/86 | 74 | PREVIOUS 2 LSCS | 09:54AM | 300 | 180 | 120 | 10.4 | 32.8 | 10 | 32 | | NONE | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 263 | 610 | 10053667 | A | 24 | PRIMIGRAVIDA | 38.6 | 22 | 2 | 140/98 | 88 | SEVERE PE | 11:29AM | 380 | 200 | 180 | 12.4 | 38.9 | 11.6 | 34.8 | | INJ.OXYTOCIN 10 IU IV | 2 | 1 | 2 | 2 | NONE | 2 | 2 | 2 |
| 264 | 615 | 10046287 | B | 22 | G3P1L1A1 | 39.6 | 26 | 2 | 124/70 | 72 | PREVIOUS LSCS NOT WILLING FOR VBAC | 11:20PM | 400 | 200 | 200 | 12.9 | 37.6 | 11.5 | 35.9 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 265 | 618 | 10046294 | B | 21 | PRIMIGRAVIDA | 38.2 | 23 | 2 | 126/74 | 72 | NON REASSURING NST | 02:03PM | 500 | 280 | 220 | 13.8 | 40.1 | 12 | 35.4 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 266 | 620 | 10047159 | B | 24 | G3P2L2 | 40.5 | 26 | 2 | 110/60 | 78 | THICK MSL | 05:15AM | 680 | 450 | 230 | 11.7 | 32.2 | 9.5 | 29.8 | | INJ OXYTOCIN 20 IU IV INJ METHERGIN 0.2MG IM | 2 | 1 | 2 | 1 | NONE | 2 | 2 | 2 |
| 267 | 621 | 10054251 | A | 28 | G3P2L2 | 38.4 | 28 | 2 | 138/86 | 98 | PLACENTA PREVIA | 09:25AM | 500 | 350 | 150 | 11 | 37.8 | 9.5 | 33.9 | | INJ CARBOPROST 250MCG IM | 2 | 2 | 1 | 2 | NONE | 2 | 2 | 2 |
| 268 | 622 | 10054295 | A | 24 | G3P2L2 | 40 | 23 | 2 | 130/78 | 96 | FETAL DISTRESS | 06:56AM | 580 | 280 | 300 | 12.6 | 32.9 | 11.5 | 31.7 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 269 | 623 | 10054856 | A | 24 | G2P1L1 | 38.1 | 26.8 | 2 | 128/80 | 82 | ANAMNIOS | 01:44PM | 390 | 240 | 150 | 10.9 | 33.3 | 9.9 | 30.2 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |
| 270 | 625 | 10046551 | B | 28 | G2P1L1 | 39.5 | 26 | 2 | 124/72 | 70 | PREVIOUS LSCS NOT WILLING FOR VBAC | 10:35PM | 450 | 250 | 200 | 12.7 | 38.9 | 11.5 | 37.4 | | NONE | 2 | 2 | 2 | 2 | NONE | 2 | 2 | 2 |