A DISSERTATION ON

COMPARATIVE STUDY OF FOLEY INDUCTION AND MISOPROSTOL VERSUS MIFEPRISTONE AND MISOPROSTOL IN SECOND TRIMESTER MTP

BY

Dr.PRAVEENA.M

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THE TAMIL NADU DR. MGR. MEDICAL UNIVERSITY,

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In partial fulfillment of the regulations

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Gratitude can transform common days into thanks giving, turn routine jobs into joys, and change ordinary opportunities into blessings. And here I would like to thank all those who have helped me through my post graduation to complete my thesis.

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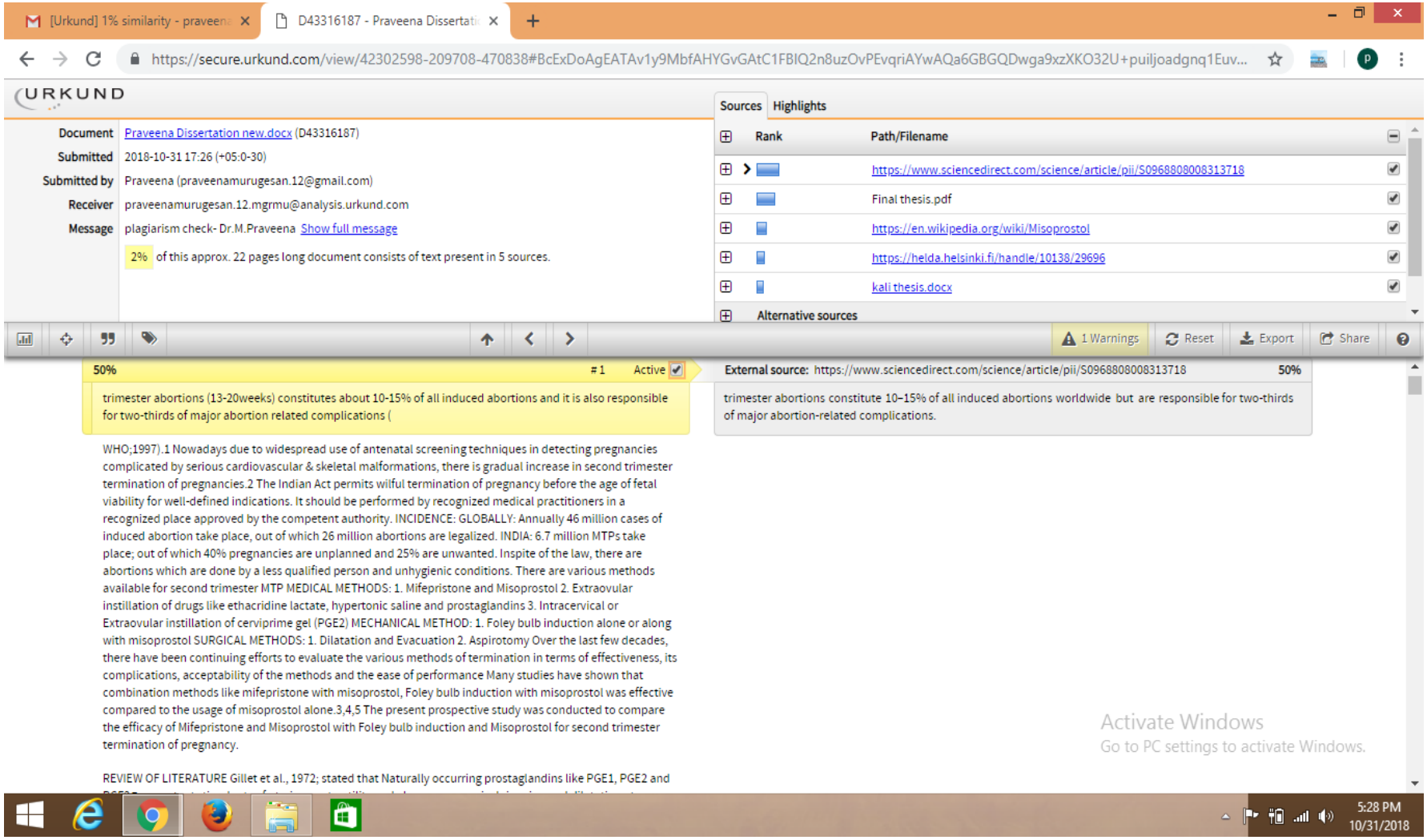
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trimester abortions (13-20weeks) constitutes about 10-15% of all induced abortions and it is also responsible for two-thirds of major abortion related complications (
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trimester abortions constitute 10–15% of all induced abortions worldwide but are responsible for two-thirds of major abortion-related complications.
WHO;1997).1 Nowadays due to widespread use of antenatal screening techniques in detecting pregnancies complicated by serious cardiovascular & skeletal malformations, there is gradual increase in second trimester termination of pregnancies.2 The Indian Act permits wilful termination of pregnancy before the age of fetal viability for well-defined indications. It should be performed by recognized medical practitioners in a recognized place approved by the competent authority. INCIDENCE: GLOBALLY: Annually 46 million cases of induced abortion take place, out of which 26 million abortions are legalized. INDIA: 6.7 million MTPs take place; out of which 40% pregnancies are unplanned and 25% are unwanted. Inspite of the law, there are abortions which are done by a less qualified person and unhygienic conditions. There are various methods available for second trimester MTP MEDICAL METHODS: 1. Mifepristone and Misoprostol 2. Extraovular instillation of drugs like ethacridine lactate, hypertonic saline and prostaglandins 3. Intracervical or Extraovular instillation of cerviprime gel (PGE2) MECHANICAL METHOD: 1. Foley bulb induction alone or along with misoprostol SURGICAL METHODS: 1. Dilatation and Evacuation 2. Aspirotomy Over the last few decades, there have been continuing efforts to evaluate the various methods of termination in terms of effectiveness, its complications, acceptability of the methods and the ease of performance Many studies have shown that combination methods like mifepristone with misoprostol, Foley bulb induction with misoprostol was effective compared to the usage of misoprostol alone.3,4,5 The present prospective study was conducted to compare the efficacy of Mifepristone and Misoprostol with Foley bulb induction and Misoprostol for second trimester termination of pregnancy.
REVIEW OF LITERATURE Gillet et al., 1972; stated that Naturally occurring prostaglandins like PGE1, PGE2 and
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CONTENTS

LIST OF ABBREVATIONS

***WHO**- World Health Organisation*

***MTP**- Medical Termination of Pregnancy*

***PGE2**- Prostaglandin E2*

***PGF2α**- Prostaglandin F2α*

***RU-486**- Russel Utkoff-486*

***LMP**- Last Menstrual Period*

***D&E**- Dilatation and Evacuation*

***RCOG**- Royal College of Obstetrics and Gynecology*

***LH**- Luteinizing Hormone*

***IUD**- Intrauterine Death*

***PID**- Pelvic Inflammatory Disease*

***IUGR**- Intra Uterine Growth Retardation*

***IAI**- Induction to Abortion Interval*

***NRHM**- National Rural Health Mission*

***HMIS**- Health Management Information System*

INTRODUCTION

Abortion is defined as the termination of pregnancy before the period of viability. Mid-trimester abortions (13-20weeks) constitutes about 10-15% of all induced abortions and it is also responsible for two-thirds of major abortion related complications (WHO;1997).

Nowadays due to widespread use of antenatal screening techniques in detecting pregnancies complicated by serious cardiovascular & skeletal malformations, there is gradual increase in second trimester termination of pregnancies.[1]

The Indian Act permits wilful termination of pregnancy before the age of fetal viability for well-defined indications. It should be performed by recognized medical practitioners in a recognized place approved by the competent authority.

INCIDENCE:

GLOBALLY:

Annually 46 million cases of induced abortion take place, out of which 26 million abortions are legalized.

INDIA:

6.7 million MTPs take place; out of which 40% pregnancies are unplanned and 25% are unwanted.

Inspite of the law, there are abortions which are done by a less qualified person and unhygienic conditions.

There are various methods available for second trimester MTP

MEDICAL METHODS:

1. Mifepristone and Misoprostol
2. Extraovular instillation of drugs like ethacridine lactate, hypertonic saline and prostaglandins
3. Intracervical or Extraovular instillation of cerviprime gel (PGE_2)

MECHANICAL METHOD:

1. Foley bulb induction alone or along with misoprostol

SURGICAL METHODS:

1. Dilatation and Evacuation
2. Aspirotomy

Over the last few decades, there have been continuing efforts to evaluate the various methods of termination in terms of effectiveness, its complications, acceptability of the methods and the ease of performance

Many studies have shown that combination methods like mifepristone with misoprostol, Foley bulb induction with misoprostol was effective compared to the usage of misoprostol alone.[2,3]

The present prospective study was conducted to compare the efficacy of Mifepristone and Misoprostol with Foley bulb induction and Misoprostol for second trimester termination of pregnancy.

REVIEW OF LITERATURE

Gillet *et* al., 1972; stated that Naturally occurring prostaglandins like PGE_1, PGE_2 and $PGF_{2\alpha}$ are potent stimulants of uterine contractility and also causes cervical ripening and dilatation at any stage of pregnancy. Because of rapid metabolism and gastrointestinal side effects, they have limited role in induced abortion and were soon replaced by prostaglandin analogues which are more suitable for clinical application.

Lauersen and Wilson *et* al.,1976; stated that Carboprost, $PGF_{2\alpha}$, the first analogue which was tested clinically on a large scale for the second trimester termination of pregnancy. It can be used either intra-amniotically for viable second trimester pregnancy or by i.m injection. It has limited value as a primary method of abortion as it has high rates of gastrointestinal side effects, but can be used when other methods are failed.

Welch and Elder *et* al., 1982; showed that Gemeprost is a PGE_1 analogue and it was used as vaginal pessary. It was extensively used as a non-surgical method before vacuum aspiration to dilate the cervix in late-first and early-second trimester abortion.

Cameron and Baird *et* al.,1984, showed that Gemeprost was more efficacious when compared with intra-amniotic $PGF_{2\alpha}$, extra-amniotic PGE_2 and dinoprostone intracervically.

Bygdeman and Swahn *et* al.,1985, concluded that After the introduction of prostaglandin analogues, the efficacy of medical abortion was improved, risk

for complications and side effects was reduced. Medically induced abortion could be further improved when mifepristone became available in 1980s.

Lahteenmaki *et* al.,1987; stated that Mifepristone which is the anti-progestin approved for induction of abortion. It is a 19- norsteroid substituted at the 11beta position by a *p*- dimethyaminophenyl group. It binds with high affinity to the progesterone receptor, thus inhibits the effect of hormone. Its binding affinity for progesterone receptor is 2.5-5times that of progesterone.

Ulman *et* al., 1992 and Peyron et al., 1993; stated that Sulprostone, PGE_2 methyl sulphonylamide, was withdrawn from the market due to its severe cardiovascular complications including myocardial infarction.

El-Refaey and Templeton *et* al.,1995; showed that Routine surgical evacuation of uterus is not required following mid-trimester medical abortion. It should be done only if there is any clinical evidence that the abortion is incomplete.

RCOG.,1997; stated that with mifepristone there is shortening of induction to abortion interval and the dose of prostaglandin analogues which is required further was reduced.

Ngai *et* al., 2000; concluded that Induction to abortion interval was shorter and the amount of misoprostol required was lower after vaginal administration of misoprostol in cases of pre-treatment with mifepristone.

Bartley *et* al., 2001; showed that Gemeprost was considered standard prostaglandin analogue in medical abortion and cervical priming until misoprostol was emerged and available.

Tang *et* al., 2002; showed that Systemic bioavailability of vaginally administered misoprostol is three times higher than orally administered misoprostol. Peak plasma levels occurred later and were lowered with vaginal administration, but plasma levels were elevated and sustained for atleast upto four hours.

Tang *et* al., 2004; stated that, In the first randomized study which compared sublingual versus vaginal misoprostol in the second-trimester, the use of vaginal misoprostol resulted in higher success rate than sublingual misoprostol in 24 hours, but the abortion rate was similar at 48 hours.

Patel U *et* al., 2013; stated that the combination of mifepristone and misoprostol has become an established and highly effective and safe method for second trimester medical method of abortion. Where mifepristone is not available or affordable, misoprostol alone has found to be effective, though higher dose is needed and efficacy is lower compared to the combined regimen.[4]

Mohamed Rezk *et* al., 2015 showed that the combined use of intracervical foley catheter and vaginal misoprostol is a novel safe, effective and acceptable method in second trimester termination of pregnancy.[3]

Fathalla MM *et* al., 2017 stated that the foley catheter induction was more prolonged but it was associated with almost no complication.[5]

In India, MTP act passed by parliament in 1971 and came into force on 1st April 1972.

MTP act again got revised in 1975.[6]

The Central health management and information (HMIS) system of NRHM, a total of 11.06lakh abortions were recorded in the year of 2008-2009 in India.[7]

HISTORY

Government of India has set up the following Committee and Acts to reduce high maternal mortality due to abortion.

- Shantilal Shah committee in 1964- liberalization of abortion law to decrease MMR.
- Bill presented in Rajya Sabha and Lok Sabha in 1969.
- Act passed by parliament in August 1971.
- Implemented in April 1972 all over India.
- Revised in 1975.
- The act was amended in December 2002, rules in June 2003.
- The Medical Termination of Pregnancy (amendment) bill,2017

GROUNDS FOR PERFORMING MTP

1. MEDICAL GROUNDS

   Continuation of pregnancy is likely to

   a) Endanger the life of pregnant woman

b) Might cause grievous injury to her physical and/ or mental health like in cases of severe hypertension, cardiac disease, diabetes, psychiatric illnesses, genital and breast cancer

2. EUGENIC GROUNDS
    a) Malformed embryo or fetus
    b) Increased risk of the child being born with serious physical or mental abnormalities like in cases of hereditary disorders, congenital malformation in previous offspring with high risk of recurrence in subsequent pregnancy, teratogenic drugs, Rh-isoimmunization and maternal rubella posing risk of anomalies in the fetus
3. HUMANITARIAN GROUNDS

    In case of pregnancy caused by rape or incest
4. SOCIAL GROUNDS
    a) Risk of injury to the mental health of pregnant woman
    b) Failure of contraceptive methods.[8]

CONSENT FOR MTP

Written consent of the legal guardian should be obtained in case the woman is under the age of 18 years or she is a lunatic, even if she is older than 18years

PLACE FOR PERFORMING MTP

1. Hospital established and maintained by the government
2. Place recognized and approved by the government, under this act

Rules in existence since 1972 were amended in 2002 and 2003 to incorporate some newer requirements to MTP and also to plug the lacunae in the existing act. They were

Composition and tenure of district level committee (3-5 members)

- One member of district level committee should be gynaecologist/ surgeon/ anaesthetist
- Other members from local medical profession, non-governmental organization and panchayat institution
- One member of committee should be woman

The tenure of committee is for two calendar years and the tenure of NGO member shall not be for more than two terms.

EXPERIENCES

UPTO 12 WEEKS

- Practitioner who assisted registered medical practitioner in performance of 25 cases of MTP, out of which atleast 5 has been performed independently in a hospital established or maintained by the government
- Opinion of one medical practitioner for first-trimester MTP

UPTO 20WEEKS

- The practitioner should hold PG degree/ diploma in obstetrics and Gynaecology.

- The practitioner who completed 6 months of internship in obstetrics and gynaecology.
- The practitioner who is having atleast one year experience in practice of obstetrics and gynaecology
- Opinion of two medical practitioners for second-trimester MTP

APPROVED PLACE

UP TO 7 WEEKS

Medical abortion with RU-486 by a Registered Medical Practitioner at his clinic with access to approved place

UP TO 12 WEEKS

It should be a place approved with following facilities

1. Gynaecology examination table or labour table
2. Drugs & parentral fluids
3. Resuscitation and the sterilization equipments
4. Backup facilities for the treatment of shock and the facilities for transportation

UP TO 20 WEEKS

The place should be with following facilities

1. An operation table and the instruments for performing abdominal or gynaecological surgery

2. Drugs and parentral fluids needed for emergency use, as notified by the government of India from time to time, and
3. Anaesthetic equipments, resuscitation and the sterilization equipments

Abortion services at these centres are provided with strict confidentiality. Identity of the person is treated as a statutory personal matter. Ultrasonic scanning plays an important role in confirming uterine pregnancy, estimating gestational age, detecting malformed embryo and sometimes in performing MTP under ultrasonic guidance

TO COMPLY WITH INDIAN MTP ACT AND QUALITY CARE

- Proper case selection: document the patient's age, gestational age and indication for MTP
- Needed investigation such as haemoglobin, urine routine, blood grouping and tying, Rh factor, Ultrasonography
- One medical practitioner's opinion for first-trimester MTP, two medical practitioner's opinion for second trimester MTP is needed
- MTP has to be performed by an approved registered medical practitioner and in a place where it is recognized under the act
- Form I, Form II, admission registers has to be maintained

ILLEGAL ABORTION

"Causing miscarriage to a woman with child other than in good faith for the purpose of saving her life" is a crime under section 312 IPC who is punishable with fine and/or imprisonment.

Termination of an unintended pregnancy by an unskilled person or in an environment that does not fulfil the minimum standards or both is defined as unsafe abortion. Incidence of unsafe abortion is directly proportional to degree of unmet need in family planning.

COMPLICATIONS OF ILLEGAL ABORTION

- Haemorrhage (43%)
- Sepsis (33%)
  - Uterine infection
  - Peritonitis
  - Septicemia
- Visceral injuries (18%)
  - Uterine perforation
  - Gut injuries (5-18%)-

  (Distal ileum is most vulnerable followed by sigmoid colon)
- Miscellaneous (4%)
  - Renal failure
  - Cardiac failure
  - Jaundice

As gestational age increases, mortality and morbidity increases, and it is fivefold to tenfold in second trimester as compared to the first trimester abortions.MTP is not a birth control measure and it should not replace the prevailing methods of contraception.

MTP has a small inherent risk in the procedure and hence it should serve as a warning that MTP can never be safe as efficient contraception. Women undergoing MTP should be educated to accept contraception. So, MTP indirectly promotes family planning and population control

FIRST TRIMESTER MTP METHODS:

1. Menstrual regulation (within 42 days of LMP)
2. Dilatation and Vacuum evacuation (upto 12 weeks of gestation)
3. Cervical softening prior to dilatation and suction evacuation
4. Medical methods

SECOND TRIMESTER MTP METHODS:

SURGICAL METHODS:

1. Dilatation and evacuation
2. Aspirotomy

MEDICAL METHODS:

1. Extraovular instillation of drugs
2. Intracervical or extraovular instillation of PGE_2
3. Mifepristone and Misoprostol
4. Prostaglandins

Above methods can be used either singly or in combination. Oxytocic drugs stimulate the myometrial activity and shortens the induction-abortion interval in second trimester MTP. Use of prostaglandins prior to the procedure helps in

cervical softening and its atraumatic dilatation and facilitates evacuation procedures.

SURGICAL METHODS OF MTP

DILATATION AND EVACUATION:

- Termination of pregnancy upto 16-18 weeks gestation is done by dilatation and evacuation.
- Cervix is prepared by osmotic dilators. eg: Laminaria tents, Dilapan and Lamicel or by pharmacological agents like vaginal prostaglandins.
- Uterus is evacuated under the paracervical block with i.v sedation, short-acting barbiturates or general anaesthesia.
- Uterine contents are evacuated by either vacuum aspiration or aspirotomy using ovum forceps.
- Adequate training is an important prerequisite
- Feoeticidal techniques are sometimes used 16-24 hours before the procedure to soften the fetal cortical bone and decrease the amount of cervical dilatation required
- Following agents are used to induce foetal demise: potassium chloride, digoxin which are instilled transabdominally into the foetus or into the amniotic fluid without ultrasound guidance
- With gestational age of 14-16 weeks, suction evacuation with a wide-bore cannula is sufficient
- Oxytocin drip is kept running

- Paracervical instillation of vasopressin can decrease the blood loss
- D&E is a faster method as compared with medical methods
- D&E is associated with blood loss and carries a higher risk of traumatic injury to the uterus and cervix from the bony spicules of the foetus and from perforation

ASPIROTOMY

It involves suction aspiration of liquor amnii following evacuation of the fetal parts in pieces with the help of aspirotomy forceps. This procedure is carried out in EOT observing full surgical asepsis.

PROCEDURE:

Cervix is exposed with the help of sims speculum and an anterior vaginal wall retractor. Paracervical block with a local anaesthetic agent such as 1% Xylocaine and intracervical infiltration of the cervix and uterine isthmus with xylocaine and adrenaline helps in alleviating pain, facilitate cervical dilatation and reduces bleeding during the procedure. Cervix is dilated upto Hegar size 12-14, amniotic fluid is drained with the help of large-bore suction cannula.

With the help of aspirotomy forceps, fetus is dismembered, crushed and extracted through dilated cervix. Extracted mass is assembled to ensure that fetus is totally extracted. Oxytocin infusion is kept running throughout the procedure to reduce the risk of uterine perforation and bleeding.

The procedure is safe if performed by technically competent experts, blood loss is reduced and patient can be discharged from the hospital within 8hours.

Misoprostol will cause slow cervical dilatation prior to aspiration and reduces the cervical trauma

VACUUM ASPIRATION

It is the surgical method of choice for first trimester pregnancy termination. Uterus should be emptied by suction curette and blunt forceps. It can also be used during the early second trimester. Risk of complications increases with gestational age.

After 8 weeks of gestation, major complications rise by 15-30% for each week of delay. Method of choice at gestational age of 12-15 weeks depends upon skill and experience of the concerned clinician. Surgical abortion by the conventional suction termination without the need of specialized instruments can be done upto 15weeks of gestation. Complications can be reduced by preoperative cervical dilatation.

The World Health Organization's technical and policy guidance on safe abortion and RCOG recommends 'cervical preparation before surgical abortion for pregnancy over 9 weeks for nulliparous women, age <18 yrs, for women with gestational age >10 weeks'. Cervical dilatation can be achieved through mechanical dilatation, with PG analogues and mifepristone.

MEDICAL METHODS

EXTRAOVULAR INSTILLATION OF DRUGS:

Ethacridine lactate, hypertonic saline and prostaglandins were successfully used in the past but the drug of choice has been ethacridine lactate.

ETHACRIDINE LACTATE (EMCREDIL)

- It is an acridine derivative with uterotonic and antiseptic properties.
- It is available as ‘emcredil’.
- Exact mechanism of action is unknown
- Using 16F Foley catheter, 10-15ml of saline is inflated into bulb of the catheter to seal the internal os.
- 0.1% ethacridine is introduced into the extra-amniotic space in a dose of 10ml/week of gestation to a maximum of 150ml.
- Catheter can also be left in place until it is expelled on its own once cervical dilatation occurs. Alternatively, foley catheter bulb is deflated and removed.
- Uterine activity usually begins within 12-18hours .
- The average induction to abortion interval ranges from 24hours to 36hours with ethacridine alone. It is about 18 hours with oxytocin supplementation
- Nearly 30% of abortions are incomplete and requires oxytocin infusion and blunt curettage to remove the retained placental tissue.

- In case of failure to initiate uterine activity within 24hours, augmenting oxytocin drip is desirable.
- In case of failure in 72hours, reinstallation of ethacridine can be tried

SUPPLEMENTATION OF PROSTAGLANDINS WITH EMCREDIL

1. Instilling 1ml of carboprost ($PGF_{2\alpha}$) diluted with 10ml of distilled water into the extraovular space before removal of foley catheter
2. 0.5mg prostaglandin E_2gel prior to instillation of emcredil solution into the extraovular space
3. Inj. Carboprost 250mcg intramuscularly every 3hours from the time of removal of catheter

In all these cases induction to abortion interval is reduced to 12-18hours. 75-80% success rate is reported.

INTRACERVICAL OR EXTRAOVULAR INSTILLATION OF CERVIPRIME:

PGE_2 causes uterine contraction within few hours of instillation. If the uterine contractions fail to occur or weak, oxytocin drip is started 6hours later. 99% abort in 24hours.

CONTRAINDICATIONS:

1. Cardiac disease
2. Renal disease
3. Hypertension
4. Bronchial asthma
5. Previous caesarean scar

MIFEPRISTONE

In 2002, Drug controller approved the use of Mifepristone(2002) followed by Misoprostol(400mcg) for medical abortion. MTP Act amended in 2003 to facilitate provision of Medical abortion.

Progesterone is an important hormone in maintaining the pregnancy by having the uterus in quiescent state. It prevents softening and dilatation of cervix, reduces prostaglandins output from the decidua, it suppresses uterine contractions by causing hyperpolarization of cell membrane which makes myocytes less sensitive to electrical stimulation. Mifepristone is the only anti-progestin approved for induction of abortion. It is 19- norsteroid substituted at the 11beta position by a *p*- dimethyaminophenyl group. It has high affinity for progesterone receptor, thus inhibits the effect of hormone. Blockage of progesterone receptor leads to vascular damage, decidual necrosis and bleeding. Treatment with mifepristone causes softening of cervix, increase the sensitivity of quiet pregnant uterus to PGs into an organ of spontaneous

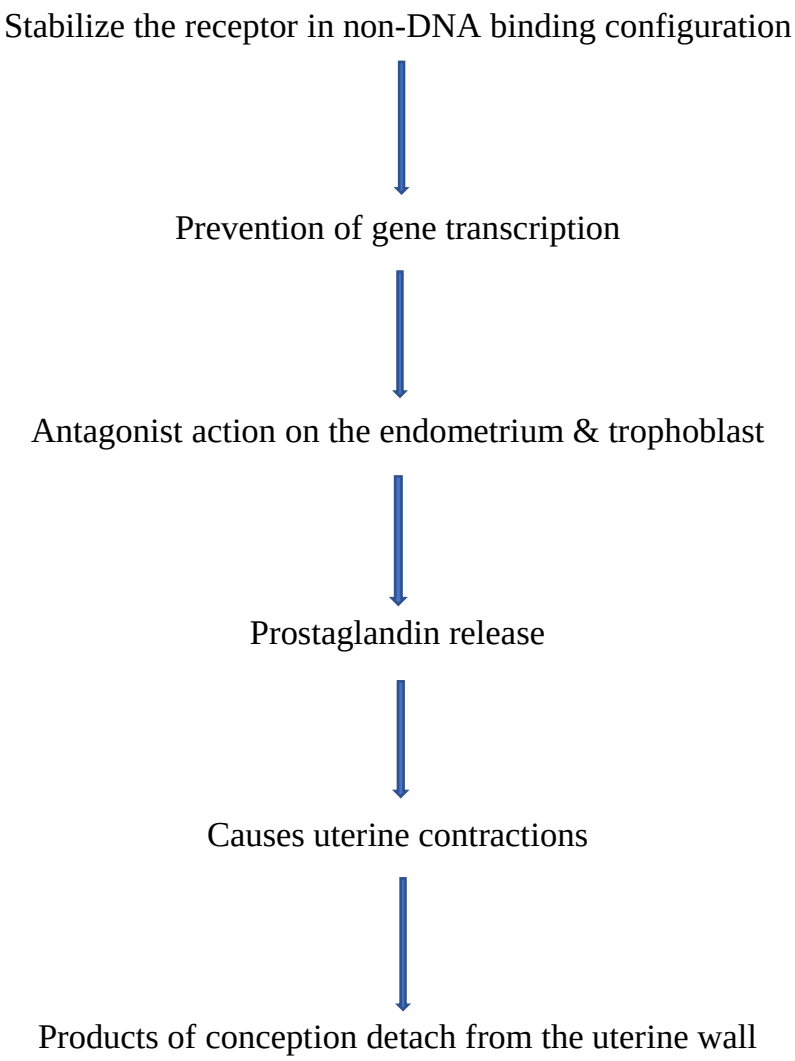
activity.[8,9] Sensitivity of myometrium increases by 5 times with maximal effect on cervical ripening and uterine contractility at 36-48hrs following treatment.

Mifepristone and a prostaglandin analogue acts in synergy, hence change in type or dose of one drug or change in the route of administration and interval between mifepristone and PG analogue will have impact on the required dose and the subsequent efficacy and side effects.

PHARMACOKINETICS OF MIFEPRISTONE

- Pharmacokinetics of mifepristone is linear upto 100-200mg and above that dose it is non-linear.
- Approved dose of mifepristone in second trimester abortion is 600mg but it is shown that the abortion rate and induction-abortion interval were same even if the dose reduced to 200mg.
- Following oral administration of Mifepristone, absorption occurs rapidly with peak plasma level of 1.89 in 90minutes.
- 98% is protein bound- albumin and acid glycoprotein
- Following distribution, Mifepristone has slow elimination phase, the first 50% will be eliminated in 12-17 hrs followed by a more rapid elimination
- Halflife is 18hours
- It is metabolized in liver via hepatic microsomal enzyme- iso enzyme cytP450-3A4
- Serum level will be undetectable after 11 days

The mechanism of action is:



USES

1. **CONTRACEPTIVE**

- It is used as an emergency contraceptive- taking 600mg of Mifepristone within 72hrs of unprotected sexual intercourse has 100% success rate.
- Taking 100mg of Mifepristone on the 5 and 8 days after LH surge results in defective secretory endometrium.
- Administration of the drug in a late luteal phase induces menstruation whether or not pregnant

2. ABORTIFACIENT

- Action on target cells of endometrium & decidua
- It causes remarkable decrease in LH level by affecting the pituitary gonadotrophic cells which results in shedding of endometrium and luteolysis
- It causes softening and ripening of the cervix and produces increased release of prostaglandin from the myometrium which results in expulsion of the products of conception
- It acts by increasing the sensitivity of uterus to exogenous prostaglandins
- It's an anti-glucocorticoid agent
- Has weak anti-estrogenic action

3. CERVICAL DILATATION

- As a ripening agent of cervix prior to surgical method of MTP

OTHER SYNERGISTIC USES

- Uterine leiomyoma - there will be 49% reduction of tumour with 3months use.
- Cushing's syndrome – it is used in unresectable tumour
- Glaucoma
- For unruptured ectopic – instillation of mifepristone results in resolution of trophoblastic sac
- Endometriosis.

Though maximum priming effect is seen after 36-48hours of pretreatment with mifepristone, no difference is seen in induction-abortion time with mifepristone administered at 24hrs,36hrs, 48hrs before prostaglandin administration that may depends on the PG dose used.

For mid-trimester abortion, medical abortion with mifepristone followed by prostaglandins has shown to be safe and effective (RCOG, 2004). It is proved that pretreatment with antiprogesterone 36-48hrs before PG administration will increase the success rate, shorten the induction-abortion interval and also reduces the amount of PGs required in second-trimester abortion.

CONTRAINDICATIONS OF MIFEPRISTONE

1. Ectopic pregnancy (even if it is suspected)
2. Adnexal mass
3. Inherited prophyrias
4. IUD in place
5. Chronic adrenal failure
6. Concurrent steroid treatment
7. H/o allergy to Mifepristone or to any other prostaglandins
8. Haemorrhagic disorders
9. On anticoagulant treatment

DRUG INTERACTIONS

DRUGS WHICH DECREASES THE SERUM LEVEL OF MIFEPRISTONE

1. Rifampicin
2. Phenytoin
3. Carbamazepine
4. Phenobarbitone
5. Dexamethasone

DRUGS WHICH INCREASES THE SERUM LEVEL OF MIFEPRISTONE

(THROUGH CYTP-450-3A4)

1. Itraconazole
2. Erythromycin
3. Grape juice
4. Ketoconazole

SIDE EFFECTS OF MIFEPRISTONE

1. Abdominal / Uterine cramps
2. Diarrhoea
3. Headache
4. Dyspepsia
5. Pelvic pain
6. Hashimoto’s thyroiditis

MISOPROSTOL

Misoprostol was developed in 1973. It is on World Health Organization's List of Essential Medicines. It is a synthetic PGE_1 analogue, initially developed for the treatment of peptic ulcer but later used as an abortifacient. It is cheap, stable at room temperature, hence can be stored for a long time. It has minimal effect on bronchi and blood vessels.

It is available as 100microgram and 200 microgram tablet

It contains

- Hydrogenated castor oil
- Hydroxy propyl methylcellulose
- Microcrystalline cellulose
- Sodium starch glucose

It inhibits gastric acid secretion and and increases bicarbonate secretion. It is used as a mucoprotective in drug induced gastric ulcer and duodenal ulcer.

PHARMACOKINETICS OF MISOPROSTOL

- Misoprostol has rapid absorption after oral administration,
- It is metabolized in the liver and converted to its active metabolite, misoprostol-free acid.
- <1% of this metabolite is excreted in urine.
- Plasma concentration peaks at 30mins after oral administration and declines rapidly with a half-life of 20-40mins.

- The level increases gradually and reach maximum levels after 70-80mins after vaginal administration but remains detectable for a significantly longer time.

Systemic bioavailability of vaginally administered misoprostol is three times higher than that of orally administered misoprostol. Peak plasma levels occurred later with vaginal administration and were lower, but elevated plasma levels were sustained for at least up to 4 hours.

It was shown that time for peak concentration after sublingual administration was similar to the oral route, but plasma concentration was higher and sustained. Sublingual misoprostol had a higher serum peak concentration and bioavailability compared with the vaginal misoprostol .

EFFECT OF MISOPROSTOL ON UTERINE CONTRACTILITY

Ideal agent for induction of abortion is the one which gives uterine contractions subsequent to effective cervical dilatation. PG analogues induces cervical ripening by direct stimulation of myometrium and concomitant effect on the cervix.

The onset of effect of misoprostol and to maximum tonus elevation was shorter with oral and sublingual routes compared with vaginal route.

Following single oral administration of misoprostol, regular uterine contractions did not develop. Following sublingual and vaginal administration, uterine contractility was observed after 2 hours of administration.

The uterine contraction was short lasting following sublingual administration that that of following vaginal administration. For regimens with mifepristone pretreatment, less doses of misoprostol is usually required.

MEDICAL ABORTION WITH PG ALONE

Medical abortion with gemiprost or misoprostol alone are effective, though higher doses are needed; side effects were more frequent and induction-abortion interval is longer compared with the combined treatment with mifepristone.

SIDE EFFECS OF MISOPROSTOL

1. Fever
2. Shivering
3. Nausea
4. Vomiting
5. Diarrhoea
6. Abdominal/ uterine cramps
7. Excessive bleeding

CONTRAINDICATIONS OF MISOPROSTOL

1. Ectopic pregnancy
2. Unstable hemodynamics and shock
3. Inflammatory bowel disease
4. Allergy to misoprostol

MIFEPRISTONE AND MISOPROSTOL

In a study of 98 woman, it was shown that the vaginal misoprostol is more effective than oral misoprostol after mifepristone pretreatment. The induction-abortion interval was shorter and the dose of misoprostol required was lower after vaginal administration of misoprostol.

When misoprostol is given along with mifepristone pretreatment, all women are aborted within 24hrs of receiving the first dose of misoprostol which is less than half the time required for abortion with misoprostol alone.

Acceptability was higher with sublingual misoprostol despite higher rate of side effects with it. Hence sublingual route would be the alternative for women who do not like vaginal route of administration.

CONTRAINDICATION FOR MIFEPRISTONE-MISOPROSTOL

1. Adrenal gland failure
2. Severe anaemia
3. Ectopic pregnancy
4. Bleeding disorders
5. Medical disease that preclude the use of Misoprostol.

INTRACERVICAL FOLEY CATHETER WITH MISOPROSTOL

In low resource settings like our country mifepristone is not affordable always. So, in order to shorten the induction to abortion interval and also to minimize

side effects of repeated doses of misoprostol, intracervical foley catheter inflation can be used in combination with misoprostol

GEMEPROST

- Vaginal application of gemeprost has an abortion rate of 88-96.5% in 48 hrs, mean induction to abortion interval ranges from 14 to 18 hrs
- The most common regimen used is 1 mg of gemeprost every 3 hours for 5 doses in 24 hours
- It can be repeated if abortion didn't occur within this time
- On comparing 3hours and 6 hours administration of gemeprost , there was no advantage of 3hour intervals
- Hence by lengthening the interval between insertion of pessaries in the first 24hours, the number of pessaries could be reduced without change in clinical efficacy

SIDE EFFECTS:

1. Nausea
2. Vomiting
3. Diarrhoea
4. Fever

INTRAMUSCULAR INJECTIONS:

1. Carboprost, tromethamine (15-methyl prostaglandin F2alpha) 250microgram is administered every 2-3 hours upto maximum of 10 doses.

2. Mean induction to abortion interval is 16hours and 87% of patients abort successfully within 24 hours.
3. Pretreatment with PGE_2 gel or laminaria tents shown to increase the success rate to 95%.
4. Also decreases the incidence of the bucket-handle tears in the cervix
5. But 40% of the cases resulted in incomplete abortion and there is a need to be complete it with curettage
6. Sulprostone, a PGE_2 analogue used IM, was as effective as intramuscular PGF2alpha in inducing abortion but it was not used nowadays following the reports of cardiovascular deaths

SIDE EFFECTS:

- Nausea
- Vomiting
- Diarrhoea
- Cramping abdominal pain
- Mild fever
- bronchospasm

Hence prophylactic anti-emetics or intestinal motility inhibitors are often recommended.

CONTRAINDICTIONS

- Bronchial asthma
- In patients with compromised cardiovascular status

INTRA-AMNIOTIC INJECTIONS

- Prostaglandins that can be injected into the amniotic sac by way of abdominal amniocentesis is safer than 20% saline and other solutions.
- Under aseptic precautions, after withdrawing 10ml of liquor, 2.5mg 15-methy PGF2alpha is instilled intramniotically
- It need not be necessarily done under ultrasound guidance but it should be done without penetrating placenta
- The average induction-abortion interval is 12-14 hours
- There are certainly fewer adverse effects compared to parentral administration of the drugs
- However vasovagal collapse or transient hypotension can be an immediate reaction.
- Some cases of death have been reported.

SIDE EFFECTS

1. Pyrexia
2. Vomiting
3. Diarrhoea

DINOPROSTONE:

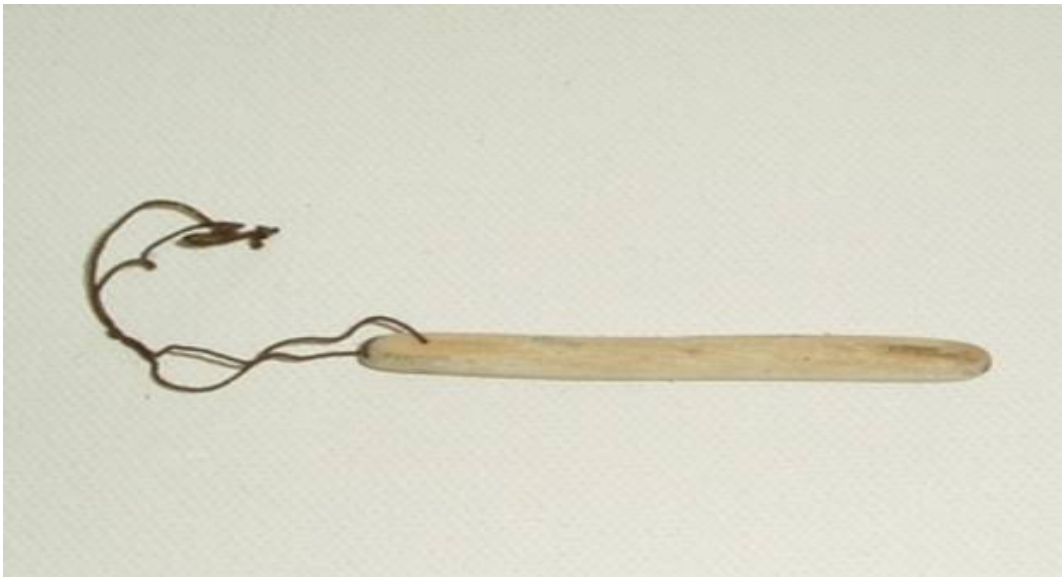
It is a PGE_2 derivative, used as a 2mg vaginal suppository every 3hours. Average induction to abortion interval in midtrimester patients is 12 hours. 90% of the patients abort within 24 hours. It needs refrigeration and expensive and it is not suitable for use in developing countries

CONTRAINDICATIONS:

1. Bronchial asthma
2. Glaucoma

OSMOTIC DILATOR

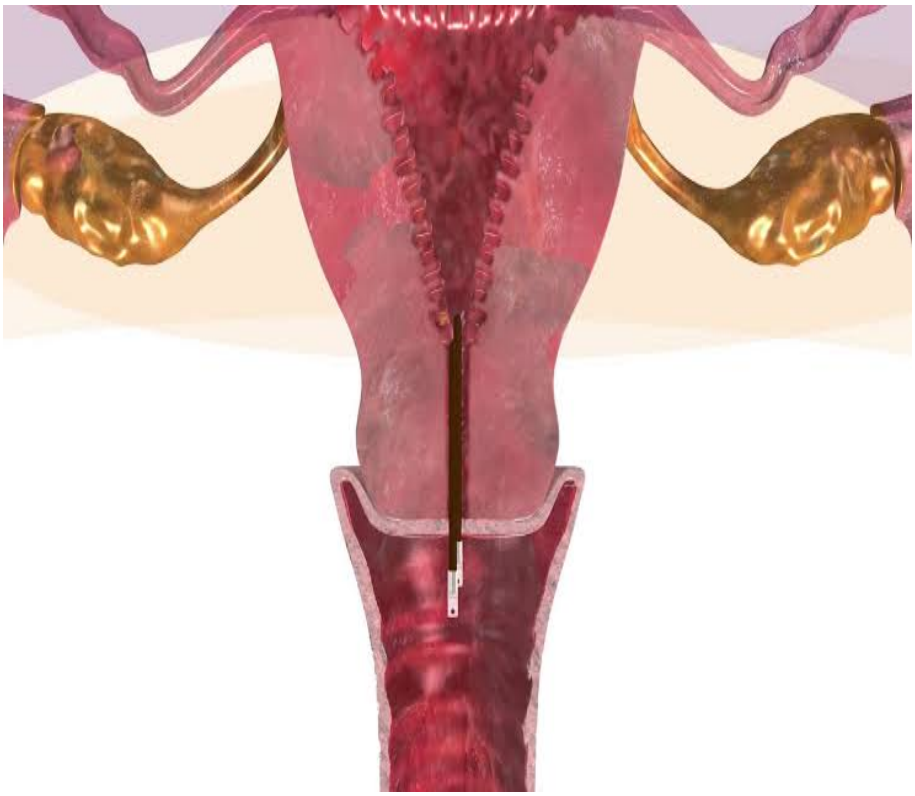
LAMINARIA TENT



- Labour induction abortion studies using natural prostaglandins has been found that placing osmotic dilators 4-24 hours before induction decreases abortion time. However, it does not occur when modern prostaglandin analogues are used
- There was two randomized studies which examined the use of cervical preparation with laminaria at the time of misoprostol induction and feticide with hypertonic saline prior to misoprostol administration.
- Women who received had additional analgesic needs during the procedure.

- Laminaria has also been compared with mifepristone which has cervical ripening properties. It was found that mifepristone was more effective than laminaria in shortening the induction abortion interval.
- Dilapan has also been proven to be of no benefit in combination with gemeprost

DILAPAN



HYSTEROTOMY AND HYSTERECTOMY

Hysterotomy is an early classical caesarean section. Due to current pharmacological agents for labour induction in termination of pregnancy, this procedure is rarely indicated as a primary method of abortion. Morbidity and mortality associated with hysterotomy is greater than any other technique.

In most cases failure of abortion is managed with parentral, oral, vaginal or rectal prostaglandins. Only after the failure of these medical methods, hysterotomy should be performed.

If pregnancy co-exists with separate indication for hysterectomy such as cervical, uterine or ovarian cancer, gravid hysterectomy is performed. However, a simpler means of the pregnancy evacuation followed by

definitive diagnosis and treatment is preferred and will reduce associated mortality and morbidity associated with gravid hysterectomy.

COMPLICATIONS AND SEQUALAE

1.Hemorrhage

a. Around 1.5/ 1000 abortions
b. Less rate in early abortions
c. <13 weeks – 1.2/1000 abortions
d. >20weeks -8.5 / 1000 abortions

2.Failure of method or continuation of pregnancy

It occurs in 6/ 1000 abortions

3.Post abortion sequalae

PID occurs in upto 10% of the cases

It can be prevented by prophylactic antibiotics

4.Future reproductive performance

There is no proven association between induced abortion and subsequent infertility or preterm delivery

5.Psychological sequalae

Only a small percentage of women experience a feeling of guilt

6.Incompetent os following trauma to the cervix which may leads to preterm births and habitual mid-trimester abortions

7.Adherent placenta in subsequent pregnancy

8. Uterine perforation

9.Asherman syndrome

10.Ectopic pregnancy following PID

11.Cervical pregnancy following PID

12.IUGR

12.Rh-isoimmunization if anti-D has not been administered after MTP to nonimmunized Rh-negative mothers

AIMS AND OBJECTIVES

- To compare the efficacy of mifepristone and misoprostol with combination of foley bulb induction and misoprostol in second trimester MTP
- To compare the various parameters involved in MTP in both the method

MATERIALS AND METHODS

The present study was carried out at GOVERNMENT MOHAN KUMARAMANGALAM MEDICAL COLLEGE HOSPITAL, SALEM during the period of January 2017- June 2017

The purpose of study is to compare the efficacy of Mifepristone and Misoprostol with Foley bulb induction with Misoprostol in second trimester Medical Termination of Pregnancy.

Study design: Comparative study

Study place: Government Mohan Kumaramangalam Medical College Hospital, Salem

Study population: Patients attending OPD and casualty in Government Mohan Kumaramangalam Medical College and Hospital, Salem**.**

Sample size: 100

50- Mifepristone + Misoprostol group

50- Foley bulb induction + Misoprostol

Period of study: January 2017- June 2018

INCLUSION CRITERIA

100 patients of

- Age group of 18-35 years
- Singleton pregnancies

- 14 to20 gestational weeks
- Who fulfills the indications defined in the MTP act of India 1971
- Who have given informed written consent to participate in the study

EXCLUSION CRITERIA

- Patient in the process of abortion
- Multiple gestation
- Underlying medical conditions like cardiac disease, diabetes mellitus, bronchial asthma, epilepsy
- Cervical incompetence
- Scarred uterus
- Pregnancy with cervical lesions
- Presence of disseminated intravascular coagulopathy
- Known maternal allergy to prostaglandins or previous adverse reactions
- Patients with genital infections

METHODOLOGY OF STUDY

- Hundred pregnant women attending the OPD for second trimester MTP who fulfill the inclusion and exclusion criteria will be selected for the study.
- Ultrasound examination will be used for the gestational age confirmation and their eligibilty.

- Selected patients are advised to admit in labour ward and to stay in hospital till pregnancy is terminated. Complete evaluation of each patient will be done at the time of admission.
- Detailed history as well as findings on medical and obstetric examination will be recorded.
- To get informed written consent after going through counselling regarding need of termination and possible method of termination to be used.

Patients will be assigned to one of the two groups on admission

GROUP A: Induction will be done by foley's bulb inflation followed by intravaginal misoprostol 400mcg after insertion. Intravaginal misoprostol 400mcg is used every 4 hours upto a maximum of 4 doses.

GROUP B: Induction with oral mifepristone 200mgs followed by 400mcg of intravaginal misoprostol 36-48hrs later & then 400mcg of vaginal misoprostol every 4^{th} hrly with a maximum of 4 doses.

Then outcome will be studied as the time lapsed until the expulsion of the conceptus to calculate the induction to abortion time.

Appropriate method of statistical analysis will be applied to study the efficacy of each method of induction. Descriptive statistics will be used to calculate the means, frequencies and S.D Chi square test will be used to compare categorical variables of significance, the student's t- test will be used to test the significant

differences between numerical variable. Results from the above study will be analyzed after consultation with the statistician

RESULTS

Induction to abortion interval, misoprostol dose required for abortion, side effects, complications, analysis of complete abortion were considered as outcome variables. Foley induction with misoprostol and Mifepristone with misoprostol were considered as primary explanatory variables. Age, parity, marital status, socioeconomic status, immunisation status, gestational age and indications were other explanatory variables.

Descriptive analysis: To describe about the data descriptive statistics frequency analysis, percentage analysis were used for categorical variables and the mean & S.D were used for continuous variables. To find the significance in categorical data Chi-Square test was used similarly if the expected cell frequency is less than 5 in 2*2 tables then the Fischer's Exact was used. Data was also represented using appropriate diagrams like bar diagram, pie diagram and box plots. Both the study groups (Foley induction with misoprostol and Mifepristone with misoprostol) were compared with respect to all the potential confounding baseline variables.

The association between categorical explanatory variables and quantitative outcome was assessed by comparing the mean values. The mean differences along with their 95% CI were presented. Independent sample t-test. Association between quantitative explanatory and outcome

variables was assessed by calculating person correlation coefficient and the data was represented in a scatter diagram.

Categorical outcome:

The association between explanatory variables and categorical outcomes was assessed by cross tabulation and comparison of percentages. Chi square test was used to test statistical significance.

P value ≤ 0.01 is highly significant, $0.01 < P \leq 0.050$ was considered significant. >0.050 is considered as no significance. IBM SPSS version 23 was used for statistical analysis.

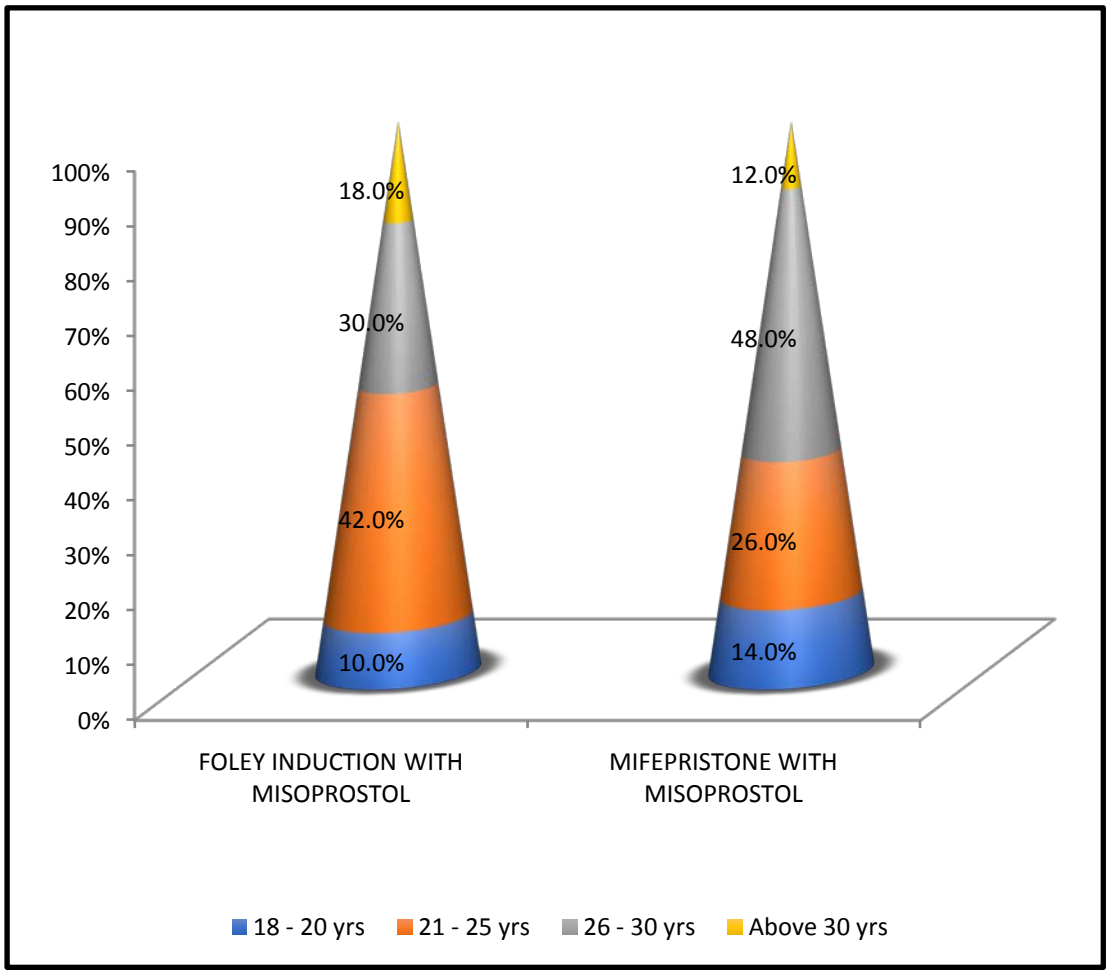
TABLE 1: AGE DISTRIBUTION

Age (years)		Foley induction + Misoprostol	Mifepristone + Misoprostol	Total
18-20	No. of cases	5	7	12
	%	10	14	12
21-25	No. of cases	21	13	34
	%	42	26	34
26-30	No. of cases	15	24	39
	%	30	48	39
Above 30 yrs	No. of cases	9	6	15
	%	18	12	15
Total		100	100	100

Most of the patients in both the groups were in the age group of 26-30 years.

In this study, 12 cases were in the age group of 18-20 years, among that 5 in Foley induction with Misoprostol group and 7 were in Mifepristone with Misoprostol group . 34 cases were between 21-25 years, among that 21 cases belongs to Foley induction with Misoprostol group and 13 cases belongs to Mifepristone with Misoprostol group.

FIG.1. DISTRIBUTION OF AGE



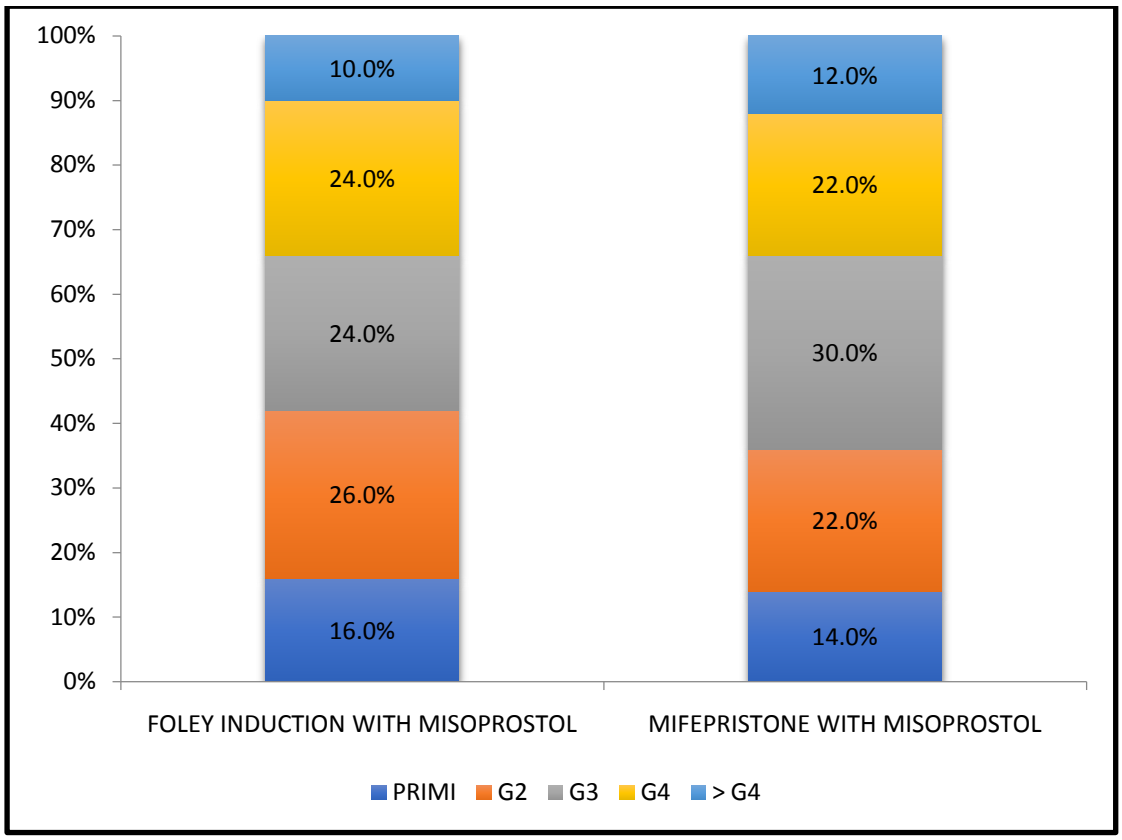
In our study, only 12% of women were less than 20years. Among that 5% were in Foley induction with Misoprostol group and 7 cases were in Mifepristone with Misoprostol group. 15% of women belongs to above 30 years. Among these, 9 cases were in the Foley induction with Misoprostol group and 6 cases were in the age group of Mifepristone with Misoprostol group.

TABLE 2: PARITY

PARITY		Foley induction and misoprostol	Mifepristone and misoprostol	Total
Primi	No. Of cases	8	7	15
	%	16	14	15
G2	No. Of cases	13	11	24
	%	26	22	24
G3	No. Of cases	12	15	27
	%	24	30	27
G4	No. Of cases	12	11	23
	%	24	22	23
>G4	No. Of cases	5	6	11
	%	10	12	11
Total		100	100	100

85% of women in both groups were parous where as only 15% of women in both the groups were primigravida. Most of the cases were third gravida (27%). In 15% of primigravida, 8 cases were in Foley induction with Misoprostol group and 7 cases were in Mifepristone with Misoprostol group. Only 11% of women were grandmulti, of which 5 cases were in the Foley induction with Misoprostol group and 6 cases were in Mifepristone with Misoprostol group.

FIG.2. DISTRIBUTION OF PARITY



24% of cases were second gravida, among that 13 cases were belong to Foley induction with Misoprostol and 11 cases belong to Mifepristone with Misoprostol. 27% of cases were third gravida, in that 12 cases were in Foley induction with Misoprostol group and 15 cases were in Mifepristone with Misoprostol group. 23% of cases were G_4, among these 12 cases were in Foley induction with Misoprostol group and 11 cases were in Mifepristone with Misoprostol group.

TABLE:3 DISTRIBUTION OF SOCIOECONOMIC STATUS

SOCIOECONOMIC STATUS		Foley induction and misoprostol	Mifepristone and misoprostol	Total
CLASS III	No. Of cases	9	3	12
	%	18	6	12
CLASS IV	No. Of cases	23	30	53
	%	46	60	53
CLASS V	No. Of cases	18	17	35
	%	36	34	35
TOTAL		100	100	100

None of the patients belong to CLASS I/II. Most of the patients belong CLASS IV (53%), among that 23 cases were in Foley induction with Misoprostol group and 30 cases were in Mifepristone with Misoprostol group. 35% of cases were CLASS V, of which 18 cases were in Foley induction with Misoprostol group and 17 Cases were in Mifepristone with Misoprostol group. Only 12% of women were CLASS III

FIG.3. DISTRIBUTION OF SOCIOECONOMIC STATUS

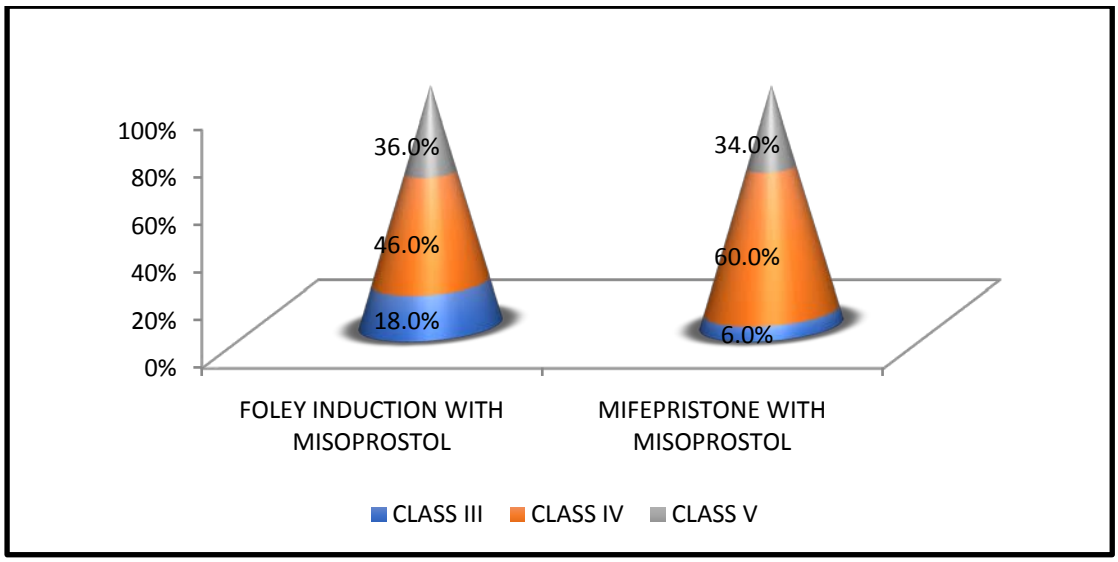


TABLE 4: DISTRIBUTION OF MARITAL STATUS

MARITAL STATUS		Foley induction and misoprostol	Mifepristone and misoprostol	Total
Married	No. Of cases	48	46	94
	%	96	92	94
Unmarried	No. Of cases	2	4	6
	%	4	8	6
Total		100	100	100

Most of the women were married (94%). Only 6% of the women were unmarried. Among married women, 48 women were Foley induction with Misoprostol group and 46 women were Mifepristone with Misoprostol group. Among 6% of unmarried women, 2 women belong to Foley induction with Misoprostol group and 4 belongs to Mifepristone with Misoprostol group.

FIG.4. DISTRIBUTION OF MARITAL STATUS

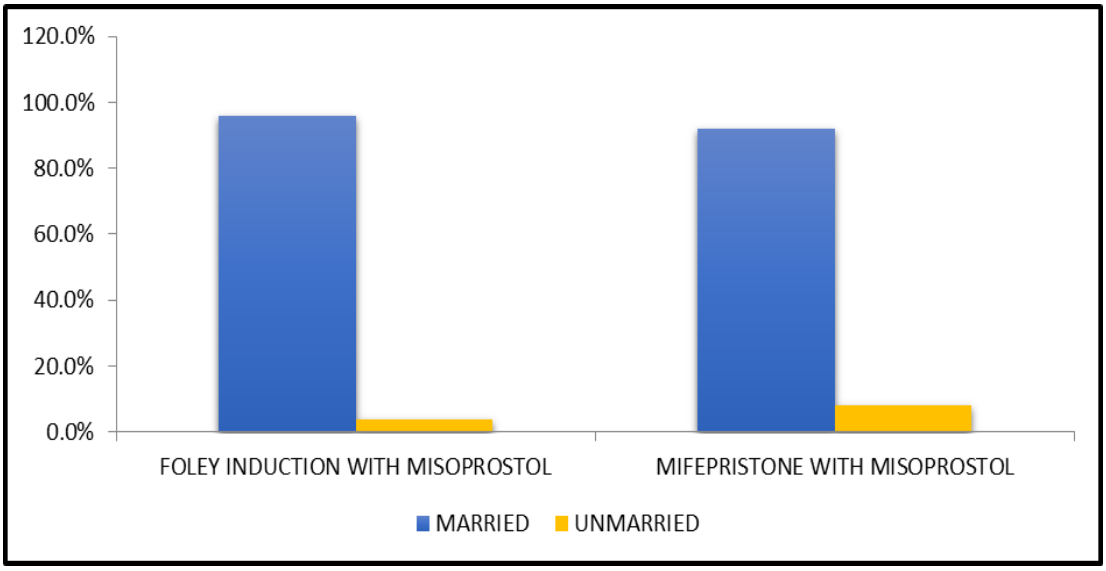


TABLE 5: ANALYSIS OF IMMUNISATION STATUS

IMMUNISATION STATUS		Foley induction and misoprostol	Mifepristone and misoprostol	Total
Immunised	No. Of cases	32	23	55
	%	64	46	55
Unimmunised	No. Of cases	18	27	45
	%	36	54	45
Total		100	100	100

Majority of women were immunised case (55%). 32 cases were in the Foley induction with Misoprostol group and 23 were in the Mifepristone with Misoprostol group.

45% of the women were unimmunised. Among that, 18 cases were Foley induction with Misoprostol group and 27 cases were Mifepristone with Misoprostol group.

FIG.5. ANALYSIS OF IMMUNISATION STATUS

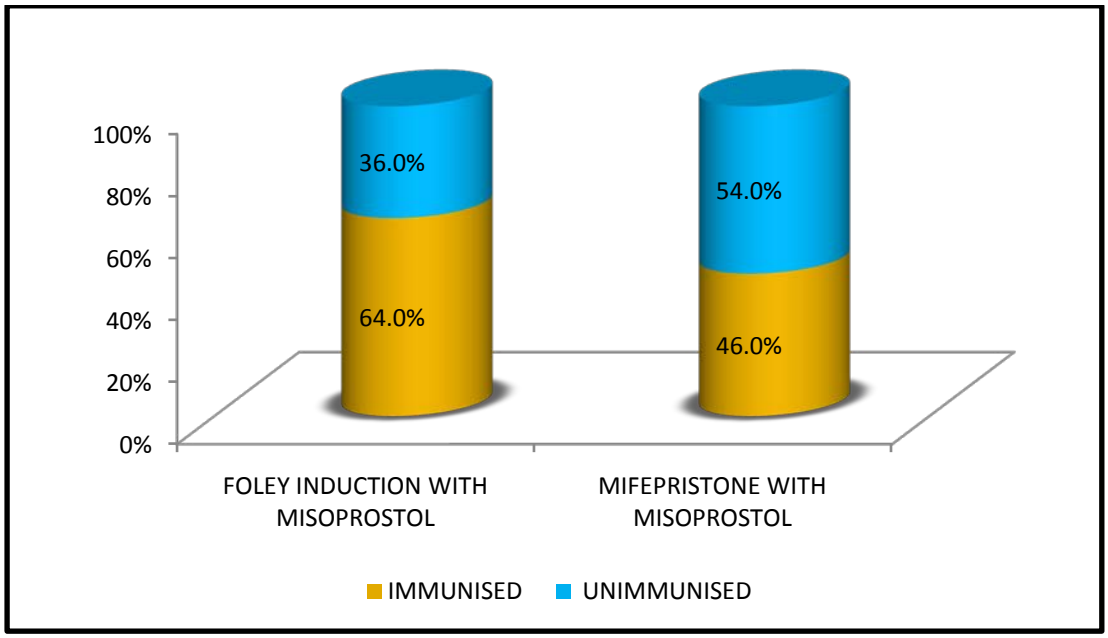


TABLE 6: GESTATIONAL AGE

GESTATIONAL AGE		Foley induction and misoprostol	Mifepristone and misoprostol	Total
14 to 16 weeks	No. Of cases	22	21	43
	%	44	42	43
17 to 20 weeks	No. Of cases	28	29	57
	%	56	58	57
Total		100	100	100

57% of the cases were between the gestational age of 17 to 20 weeks. Among that 28 cases were in the Foley induction with Misoprostol group. 29 cases were in the Mifepristone with Misoprostol group. 43% of cases were between 14 to 16 weeks. Among that, 22 cases were in the Foley induction with Misoprostol group and 21 cases were in the Mifepristone with Misoprostol group.

FIG. 6 DISTRIBUTION OF GESTATIONAL AGE

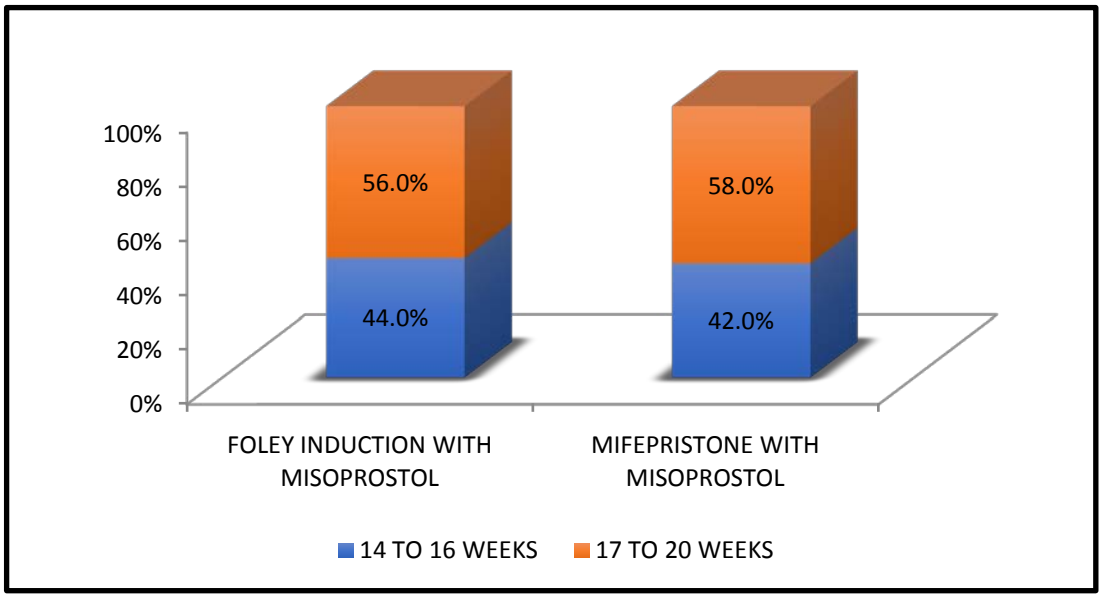
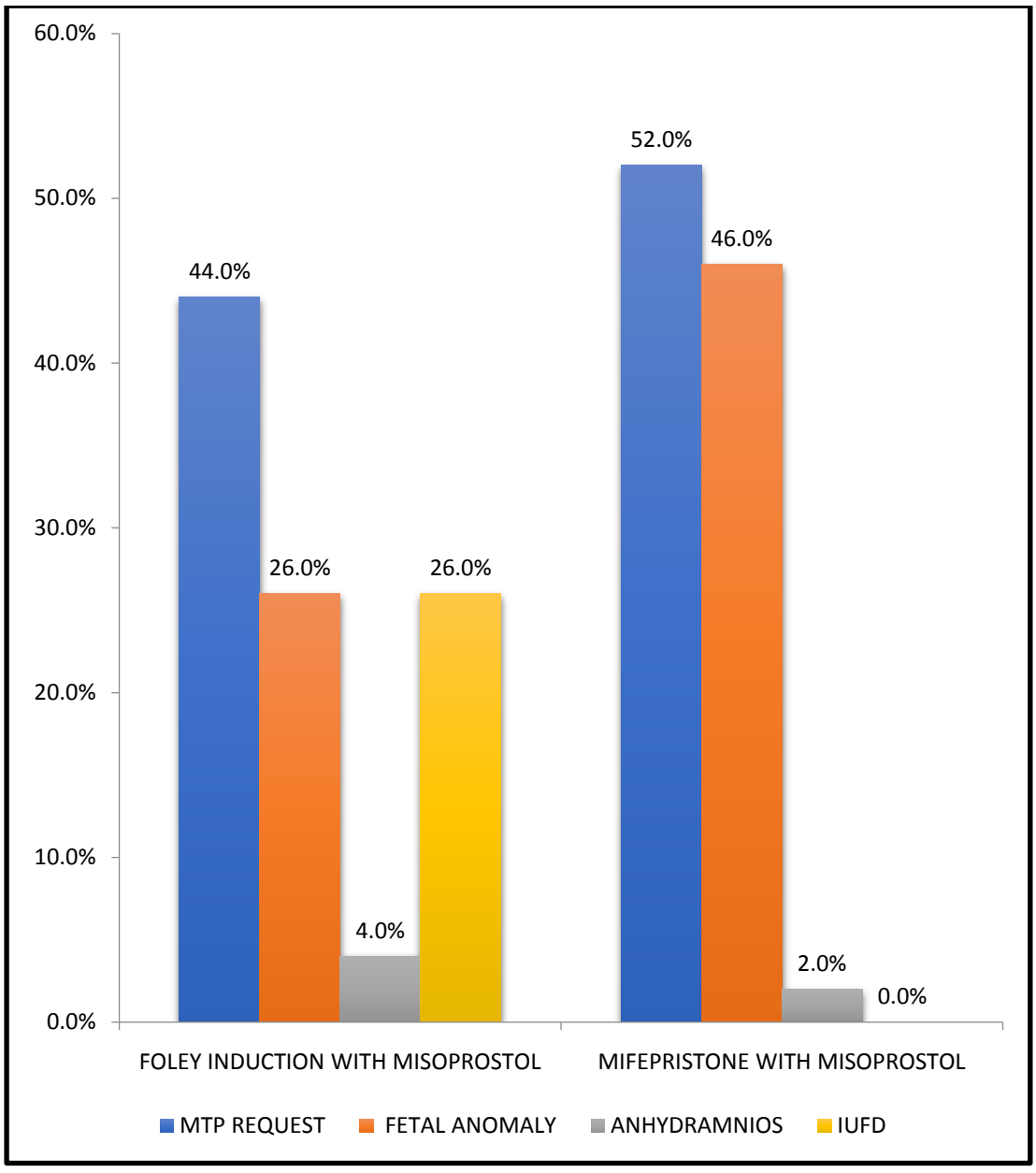


TABLE 7: ANALYSIS OF INDICATIONS

INDICATIONS		Foley induction and misoprostol	Mifepristone and misoprostol	Total
MTP request	No. Of cases	22	26	48
	%	44	52	48
Fetal anomaly	No. Of cases	13	23	36
	%	26	46	36
Anhydramnios	No. Of cases	2	1	3
	%	4	2	3
IUFD	No. Of cases	13	0	13
	%	26	0	13
Total		100	100	100

Majority of the cases were unwanted pregnancy and came MTP (48%). Among that, 22 cases were in the Foley induction with Misoprostol group and 26 cases were in Mifepristone with Misoprostol group. Due to advent of anomaly screening techniques and increasing rate of anomaly detection, 36% of cases were terminated for fetal anomalies. In that, 13 cases were terminated by Foley induction with Misoprostol and 23 were terminated by Mifepristone with Misoprostol.

FIG.7. ANALYSIS OF INDICATIONS



All the IUFD cases were terminated by Foley induction with Misoprostol as in another group misoprostol is given after 36-48 hours of mifepristone. 2 cases of anhydramnios were terminated by Foley induction with Misoprostol and 1 case alone was terminated by Mifepristone and Misoprostol.

TABLE NO 8: N0. OF MISOPROSTOL DOSES

PARITY	No. of misoprostol doses									
	1*		2*		3*		4*		5*	
	A*	B*	A	B	A	B	A	B	A	B
Primi	0	0	0	2	5	3	2	2	1	0
G2	0	0	2	5	10	6	0	0	1	0
G3	0	3	11	11	1	1	0	0	0	0
G4	1	3	10	8	1	0	0	0	0	0
>G4	1	4	4	2	0	0	0	0	0	0

A*- Foley induction with Misoprostol

B*- Mifepristone with Misoprostol

1*- 1 dose of 400mcg Misoprostol (400mcg)

2*- 2 doses of Misoprostol (800mcg)

3*- 3 doses of Misoprostol (1200mcg)

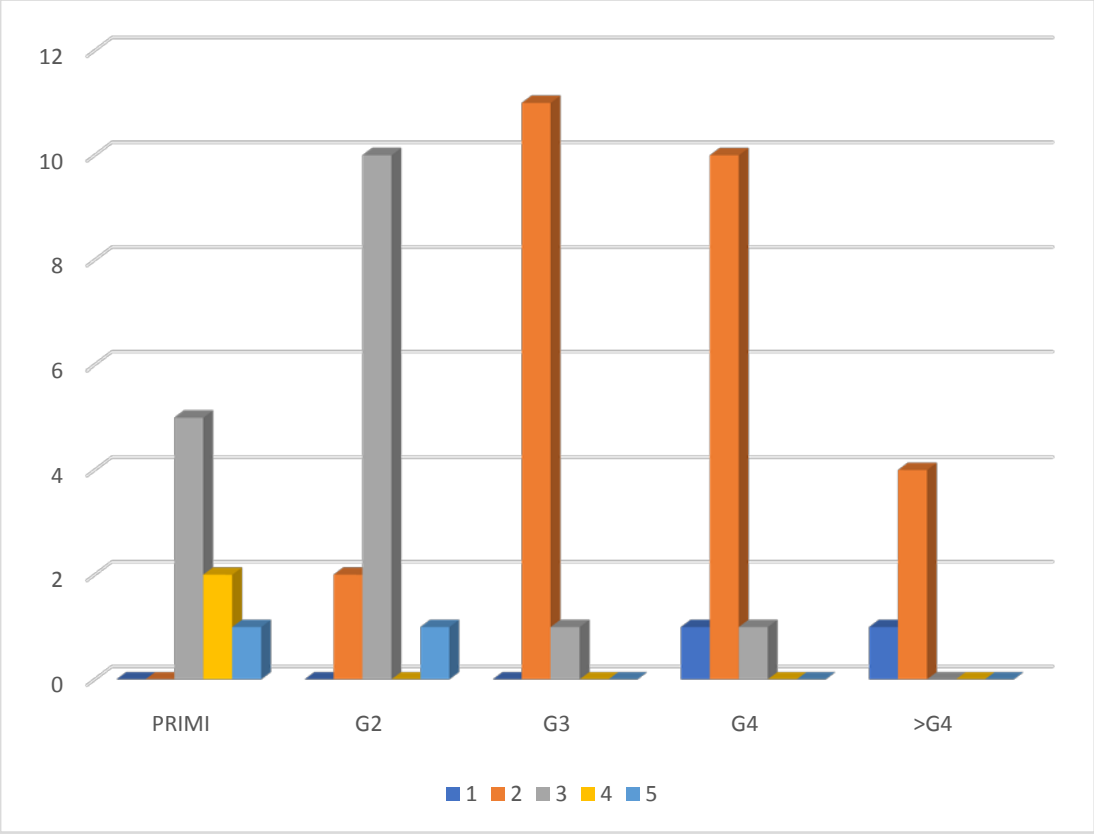
4*- 4 doses of Misoprostol (1600mcg)

5* - 5 doses of Misoprostol (2000mcg)

FOLEY INDUCTION WITH MISOPROSTOL METHOD:

In this method, 20% of cases expelled with single dose of misoprostol (400mcg), 56% of cases expelled with 2 doses of misoprostol, 20% of cases expelled with 3 doses of misoprostol, 4% of cases expelled with 4 doses of misoprostol.

FIG.8. NO. OF MISOPROSTOL DOSES- FOLEY INDUCTION WITH MISOPROSTOL

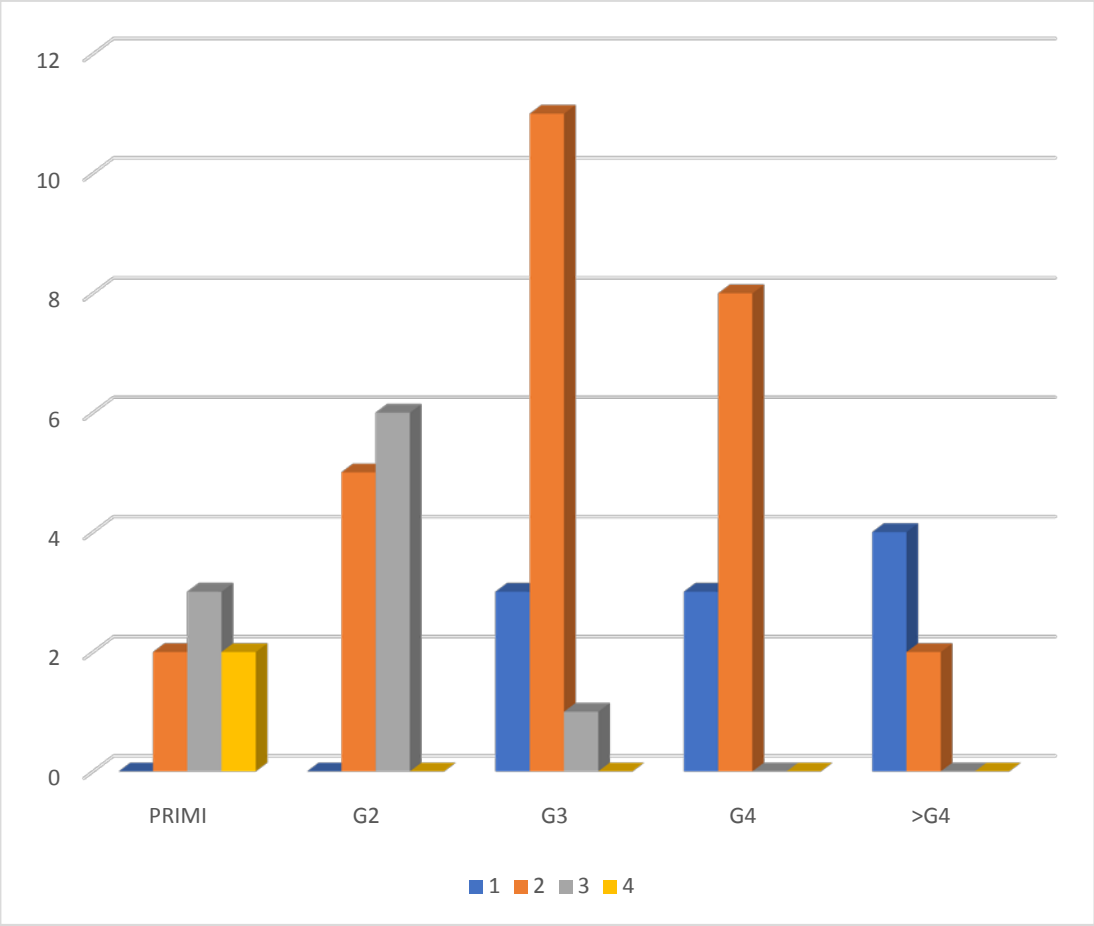


No. of misoprostol doses decreases with increasing parity and the P-value is statistically highly significant by chi-square tests which is 0.001

MIFEPRISTONE WITH MISOPROSTOL METHOD:

In the present study, average dose of misoprostol required for expulsion is 800mcg. Minimum dose required was 400mcg, maximum dose required was 1600mcg.

FIG.9. NO. OF MISOPROSTOL DOSES- MIFEPRISTONE WITH MISOPROSTOL



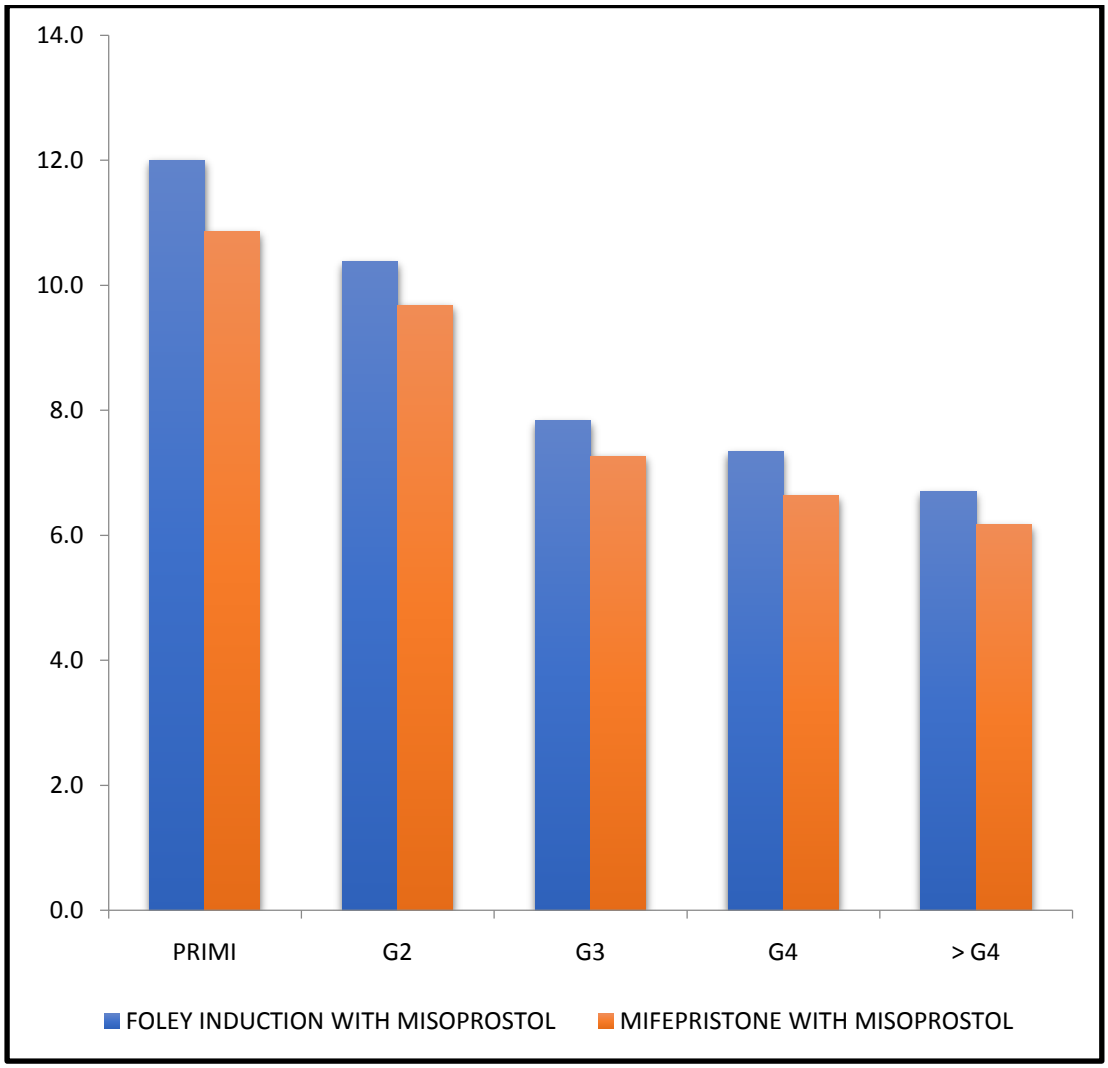
No. of misoprostol doses decreases with increasing gestational age and the P-value by chi-square tests is highly significant which is 0.001

TABLE 9: INDUCTION TO ABORTION INTERVAL(I-A-I)

PARITY	Foley induction + Misoprostol (Mean hours)	Mifepristone + Misoprostol (Mean hours)
Primi	12	10.9
G2	10.4	9.7
G3	7.8	7.3
G4	7.3	6.6
>G4	6.7	6.2

The induction to abortion interval is higher for primigravida which decreases with increasing parity. In Foley induction with Misoprostol group, Mean I-A-I is 12 hrs in primigravida, 10.4 hours in second gravida, 7.8 hours in third gravida, 7.3 hours in fourth gravida, 6.7 hours in grand multigravida. In Mifepristone with Misoprostol group, Mean I-A-I is 10.9 hours in primigravida, 9.7 hours in second gravida, 7.3 hours in third gravida, 6.6 hours in fourth gravida, 6.2 hours in grandmulti.

FIG 10. INDUCTION TO ABORTION INTERVAL



Induction to abortion interval decreases with increasing parity. Induction to abortion interval is comparatively lower for Mifepristone with Misoprostol in relation to Foley induction with Misoprostol

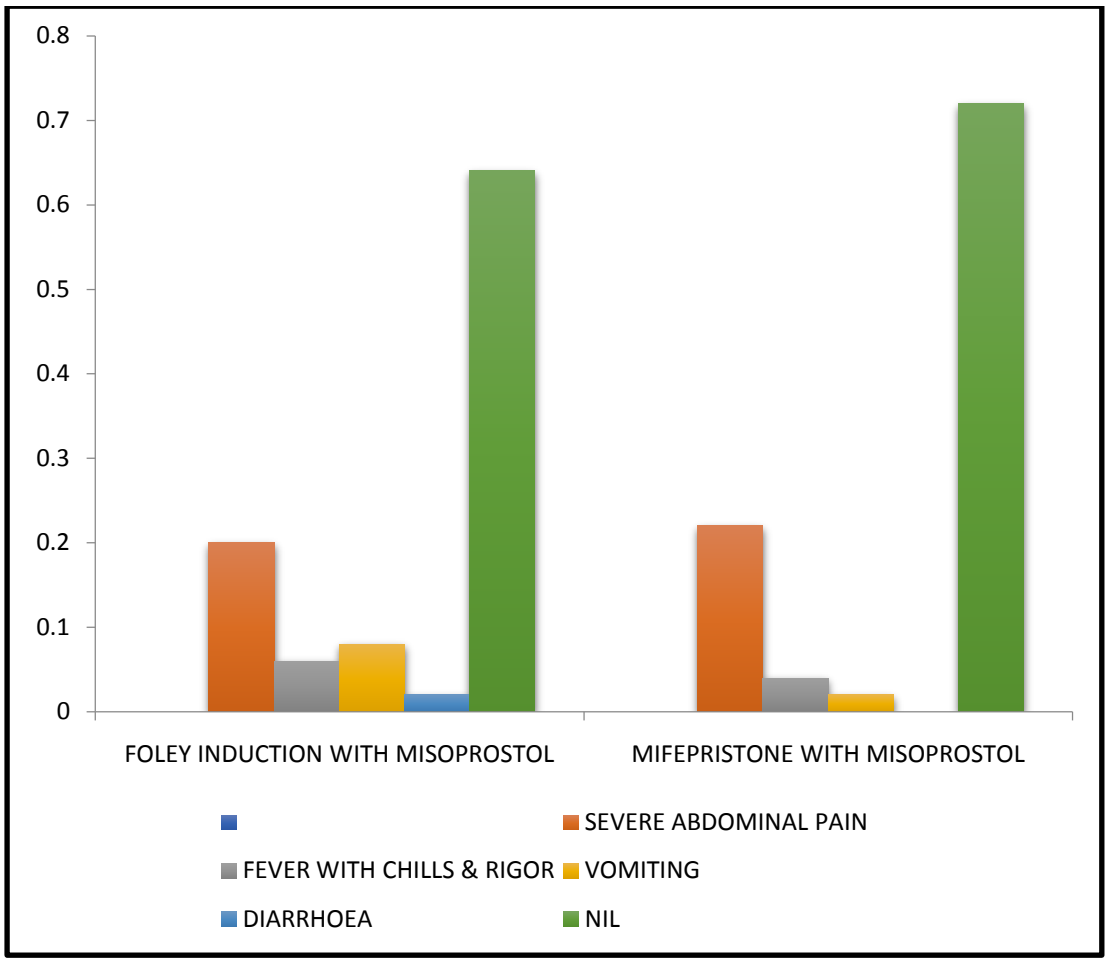
Induction to abortion interval when comparing both the methods is not statistically significant and the P-value is >0.050 by chi-square test.

TABLE 10: SIDE EFFECTS

SIDE EFFECTS		Foley induction and Misoprostol	Mifepristone and Misoprostol	Total
Severe abdominal pain	No. Of cases	10	11	21
	%	20	22	21
Fever / chills and rigor	No. of cases	3	2	5
	%	6	4	5
Vomiting	No. Of cases	4	1	5
	%	8	2	5
Diarrhoea	No. Of cases	1	0	0
	%	2	0	1
Total		100	100	100

Most common side effect is severe abdominal pain which is 20% in Foley induction with Misoprostol group and 22% in Mifepristone with Misoprostol group. Fever with chills and rigor occurs in 6% of cases in Foley induction group and it is 4% in Mifepristone group. Only one case in Foley induction group had diarrhoea. Vomiting occurs in 8% of cases in Foley induction group and 2% of cases in Mifepristone group.

FIG.11.SIDE EFFECTS



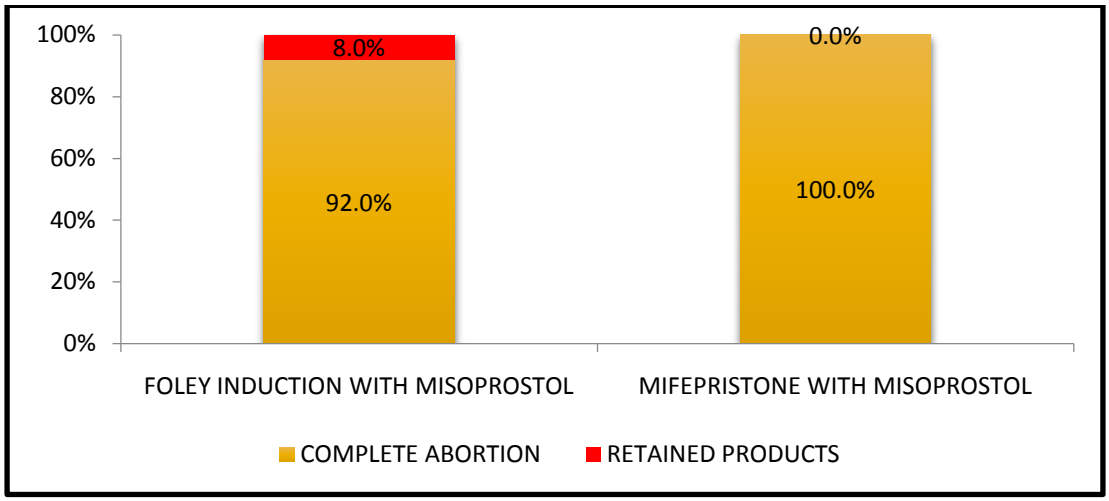
Both abdominal pain and vomiting occurs in 4% of cases in Foley induction with Misoprostol group and 2% of cases in Mifepristone group. Hence severe abdominal pain and vomiting which is the most common side effect occurs in both the groups.

TABLE :11 ANALYSIS OF COMPLETE ABORTION

POST ABORTAL USG		Foley induction and Misoprostol	Mifepristone and Misoprostol	Total
Nil	No. Of cases	38	43	81
	%	90.5	100	81
RPOC	No. Of cases	4	0	4
	%	9.5	0	4.7
Total		100	100	100

Almost all cases terminated by Mifepristone followed by Misoprostol not found to have retained products of conception. In Foley induction with Misoprostol group, 90.5% of cases had complete abortion. Remaining 9.5% had retained products of conception which was followed by check curettage for complete evacuation

FIG.12.ANALYSIS OF COMPETE ABORTION



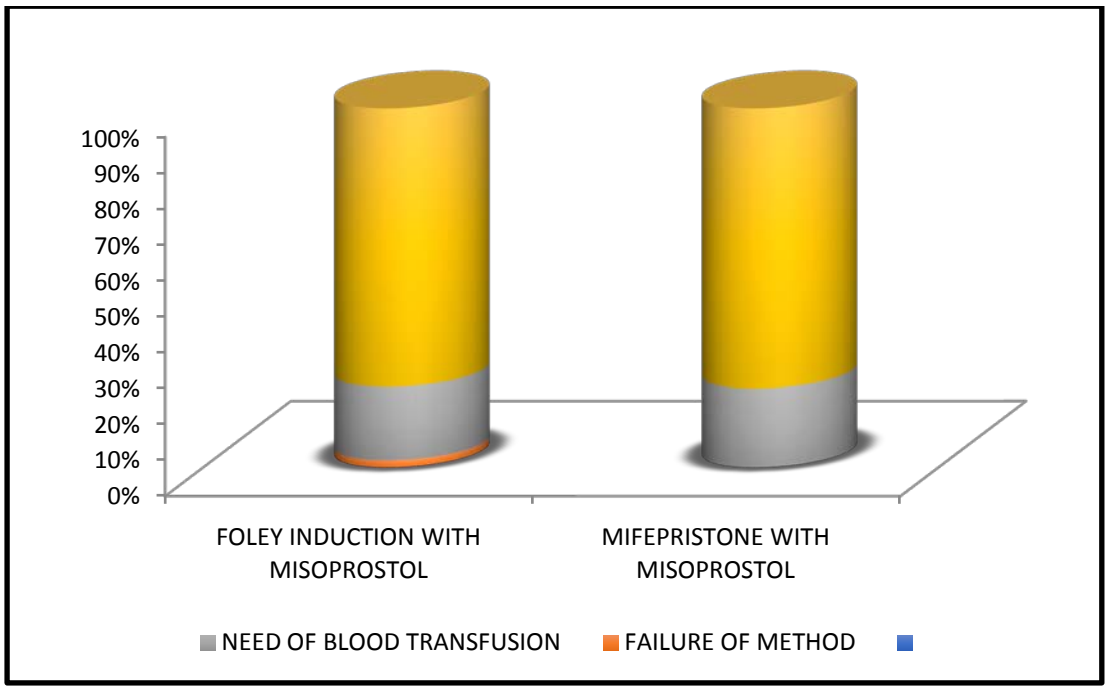
Mifepristone-misoprostol group has 100% success rate where as foley induction- misoprostol group has 92% success rate. P-value is significant (0.050)

TABLE 1: COMPLICATIONS

COMPLICATIONS		Foley induction and misoprostol	Mifepristone and misoprostol	Total
Sepsis	No. Of cases	0	0	0
	%	0	0	0
Uterine rupture	No. Of cases	0	0	0
	%	0	0	0
Failure of method	No. Of cases	2	0	2
	%	4	0	2
Need for blood transfusion	No. Of cases	10	11	21
	%	20	22	21
Nil	No. Of cases	38	39	77
	%	76	78	77
Total		100	100	100

None of the cases had sepsis and uterine rupture. Only 2 cases in Foley induction with Misoprostol group had failure which is not expelled even after 5 doses of Misoprostol. There is a need for blood transfusion in 10 cases of Foley induction group and 11 cases of Mifepristone group. Around 75% of cases in both group didn’t have any complications.

FIG.13.COMPLICATIONS



Complications are almost same in both the groups and the p-value is not statistically significant (0.560)

DISCUSSION

This study was conducted at Government Mohan Kumaramangalam Medical College Hospital, Salem during the period of January 2017- June 2018. 100m women were included in the study and the outcome analysed using various parameters. The results were subjected to statistical analysis using t-test and chi-square test.

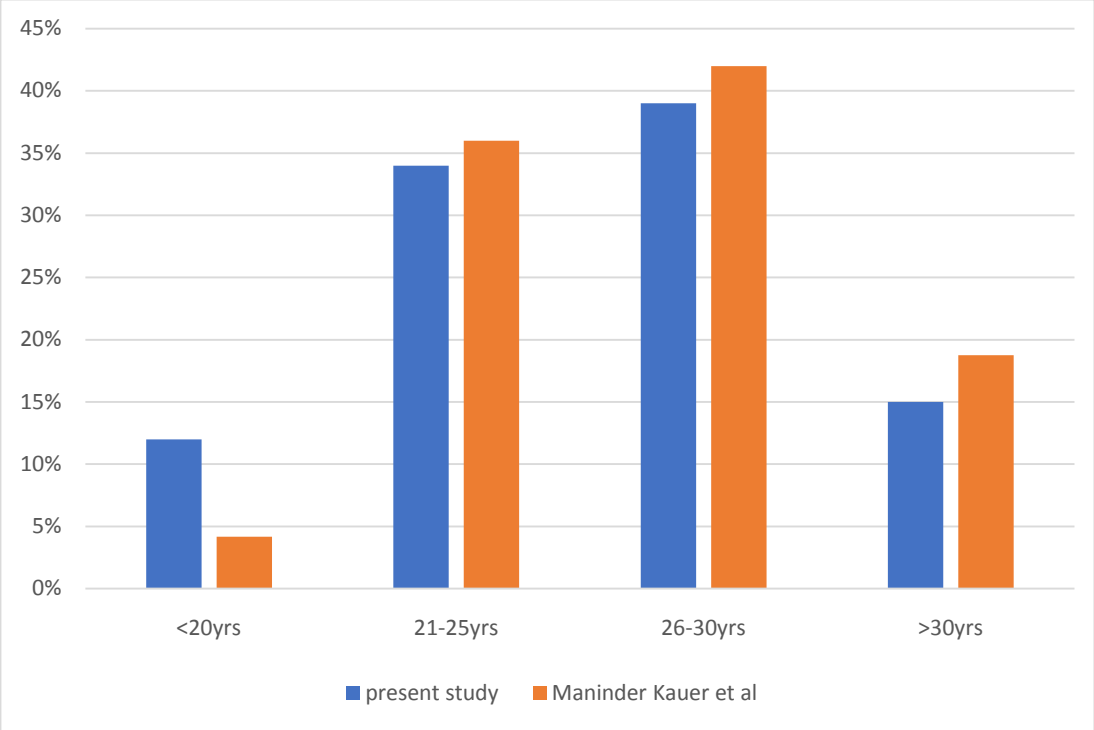
1. AGE

Most of the women in both the groups were in the age group of 26-30years (39%), which corresponds to the study done by Maninder Kauer et al[9] (Mean age-26.41 years), Fathalla MM et al[5] (Mean age- 25.9 years) and Holla R et al[10] also showed mean age of 27.96±5.41years.

AGE	In the present study	Maninder Kauer et al[9]
<20 years	12%	4.16%
21-25 years	34%	36%
26-30 years	39%	42%
>30 years	15%	18.75%

In the present study, 34% of the cases were between 21-25yrs which is comparable to the study by Maninder Kauer et al.[9] 15% of the cases were >30yrs which is also comparable the same study

FIG.14. COMPARISON OF AGE DISTRIBUTION

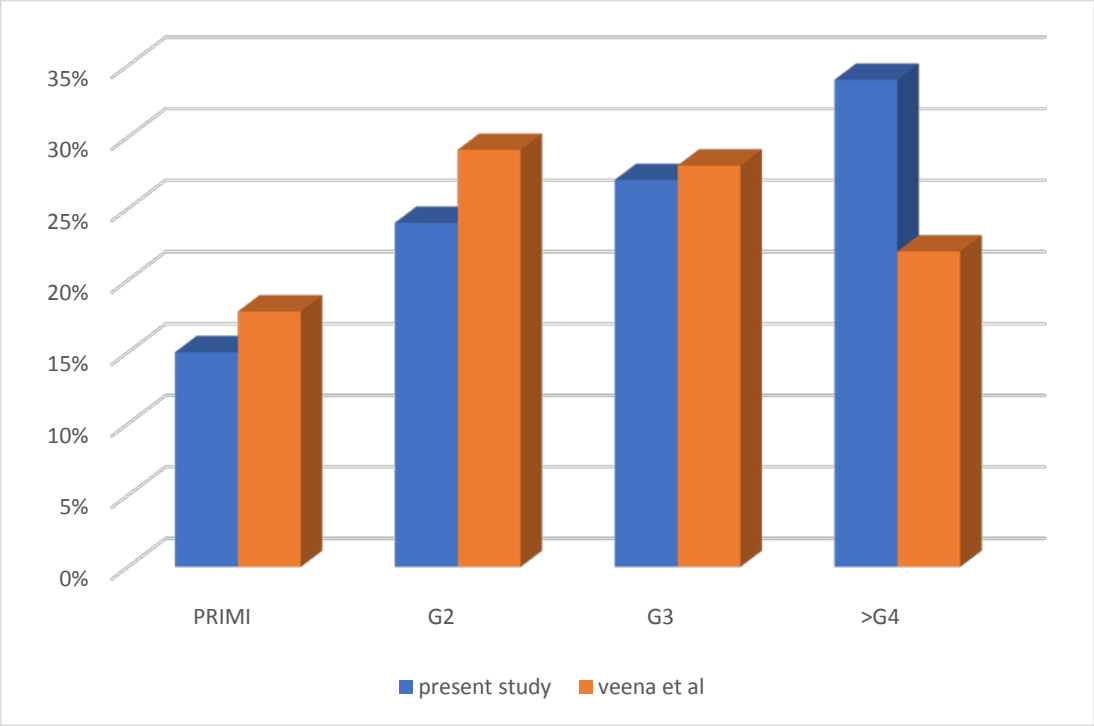


2. PARITY

Majority of the women were third gravida (27%), fourth gravida (23%) in both the groups as most common indication was MTP request which is similar to the study by Veena et al[11] who also showed most of the women were of third gravida and above (53%). 15% of the cases were primigravida which is comparable to Veena et al who showed 17.8% of the cases were primigravida. 24% of the cases were second gravida which is also comparable to the same study who showed 28%. Grandmultigravida is about 34% in our present study

PARITY	In the present study	Veena et al[11]
PRIMI	15%	17.8%
G2	24%	29.1%
G3	27%	28%
>G4	34%	22%

FIG.15. COMPARISON OF PARITY



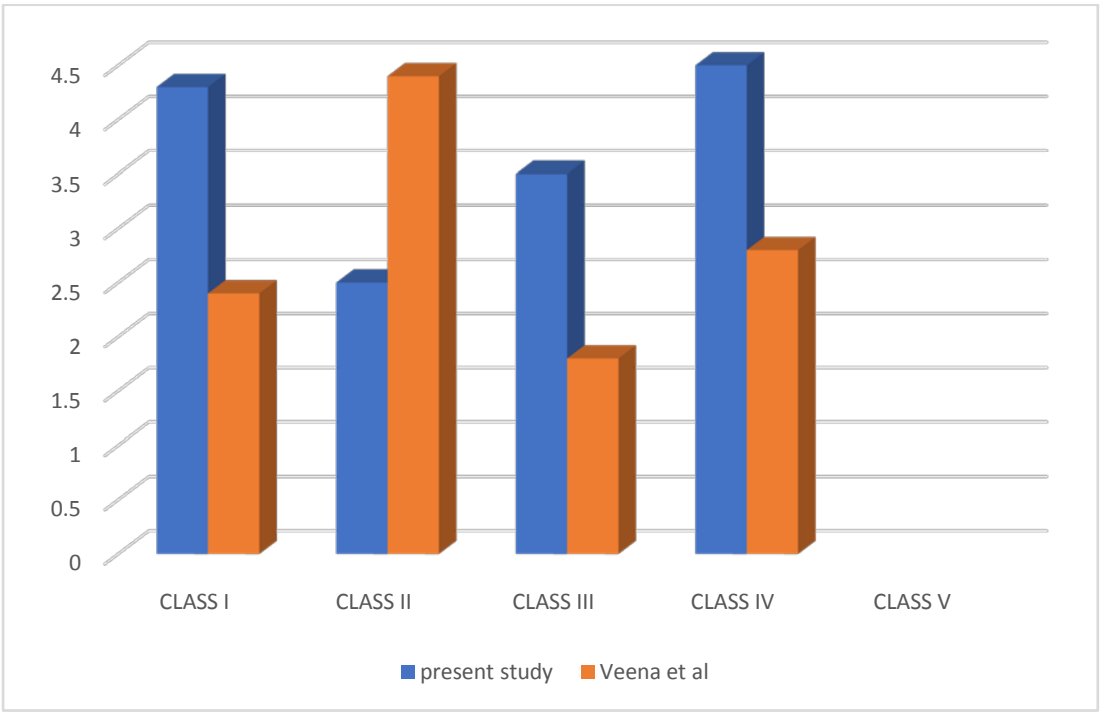
3. SOCIOECONOMIC STATUS

Most of the women belongs to class IV- Lower Upper (53%) and class V- Lower (35%) in both the groups which corresponds to the study by Veena L et al[11] in that also most of the cases were belong to class III (36.4%), class IV (37.7%), class V (16.9%). In the present study none of the patients were belong

class I or class II where as in the study done by Veena et al, 5.2% of patients were in Class I and 3.8% were in Class II

SOCIOECONOMIC STATUS	In the present study	Veena et al[11]
CLASS I	0%	5.2%
CLASS II	0%	3.8%
CLASS III	12%	36.4%
CLASS IV	53%	37.7%
CLASS V	35%	16.9%

FIG.16. DISTRIBUTION OF SOCIOECONOMIC CLASS

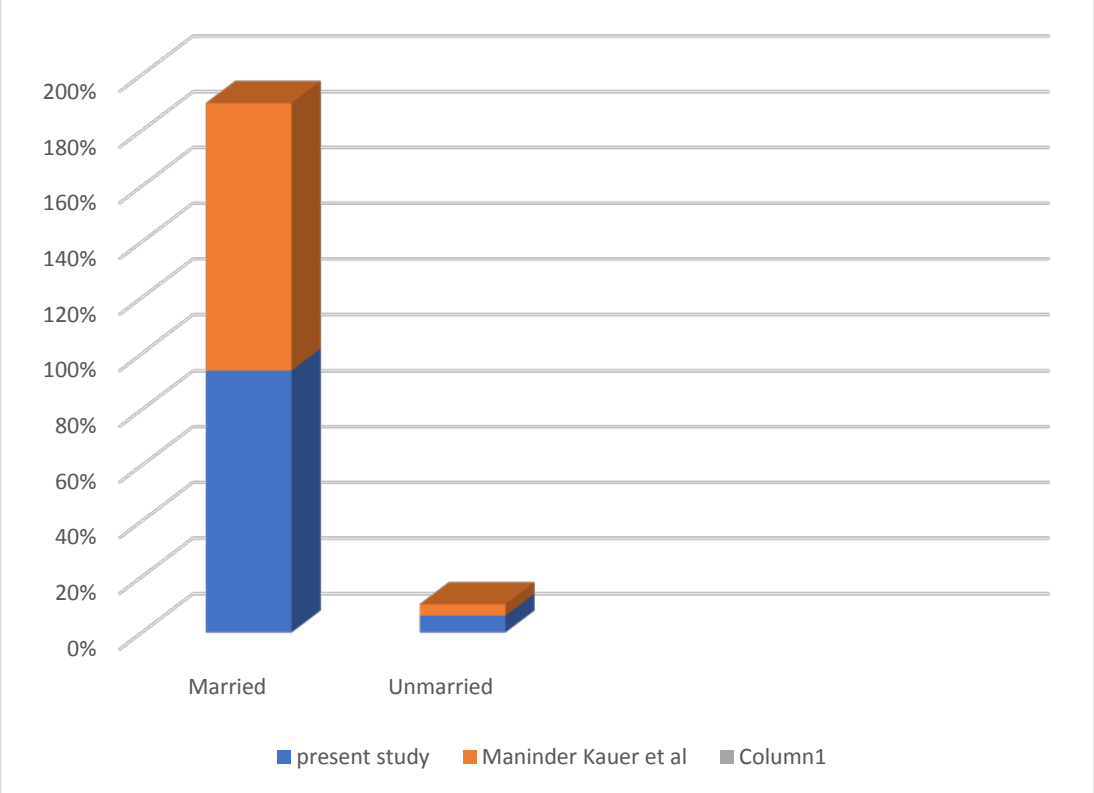


4. MARITAL STATUS

In the present study, most of the patients were married in both the groups (94%) which corresponds the study by Maninder Kauer et al[9]whom showed the 94.4% of the women were married and 5.6% were unmarried. Sahu P et al[12] also showed 91.4% of the women were married in their study.

MARITAL STATUS	In the present study	Maninder Kauer et al[9]
Married	94	94.4%
Unmarried	6%	5.6%

FIG 17. COMPARISON OF MARITAL STATUS



5. IMMUNISATION STATUS

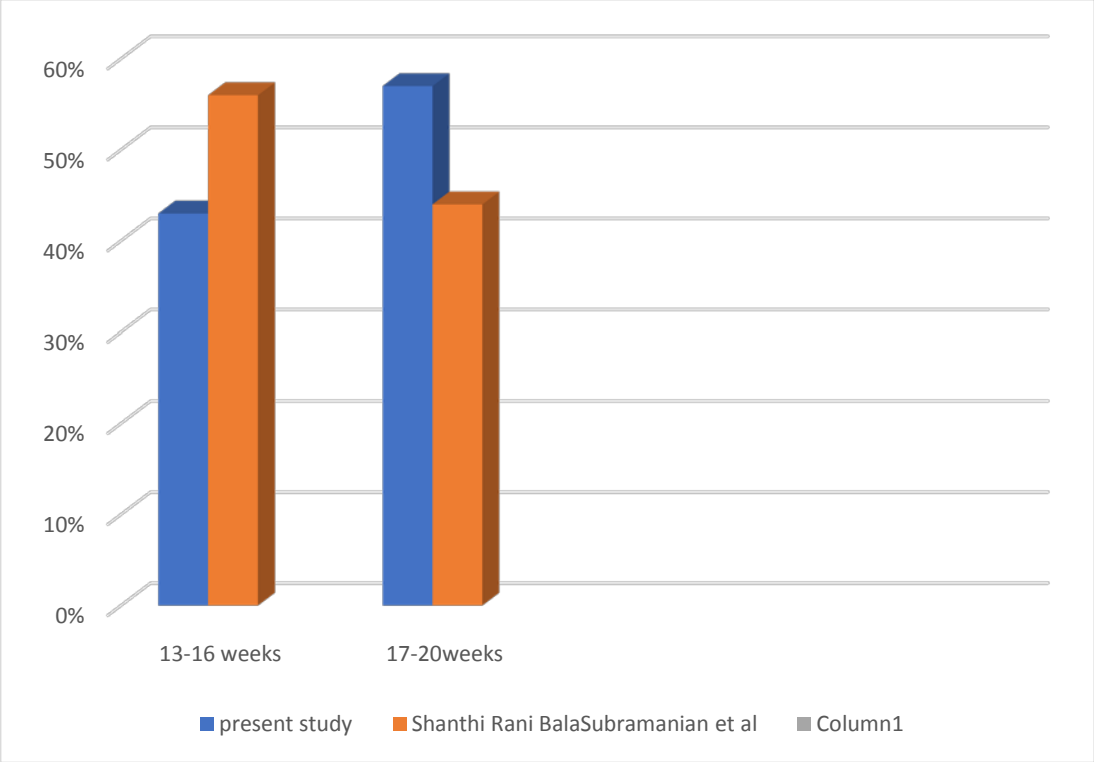
In the present study, most of the patients were immunised (55%) and 45% of the patients were unimmunised in both the groups. Among this 45% of the patients, most of the patients came for MTP request. immunisation will reduce the incidence of sepsis.

6. GESTATIONAL AGE

Most of the patients in both the groups were between the gestational age of 17-20weeks in our study whereas in the study by Shanthi Rani BalaSubramanian et al[13] 56% of the women were between the gestational age between 13-16weeks and 44% were between 17-20 weeks

GESTATIONAL AGE	In the present study	Shanthi Rani BalaSubramanian et al[13]
13-16 weeks	43%	56%
17- 20 weeks	57%	44%

FIG.18. COMPARISON OF GESTATIONAL AGE



7. INDICATIONS

In the present study, most common indication in Foley induction with Misoprostol group is MTP request (44%) followed by Fetal anomaly (26%), IUFD (24%), Anhydramnios (4%) where as in the study by Mohamed Rezk et al[3], Foley induction and Misoprostol in second trimester abortion , IUFD (58%) is the most common indication and in the study by Veena et al,[11] Fetal anomaly is the most common indication

FOLEY INDUCTION WITH MISOPROSTOL METHOD

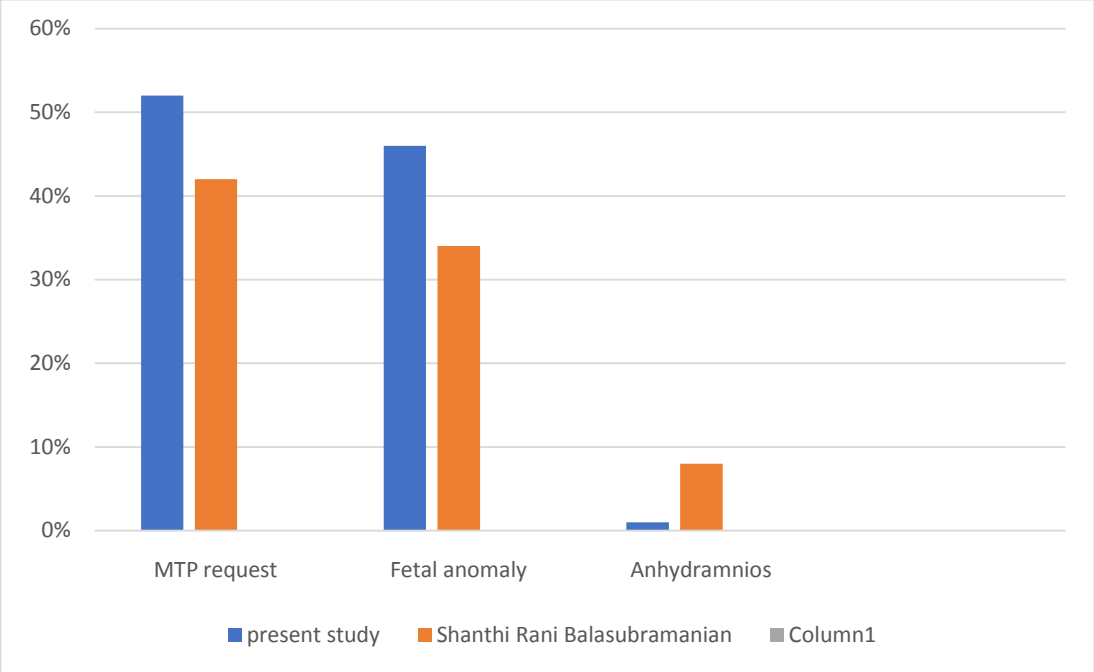
STUDY	MOST COMMON INDICATION
In our present study	MTP request (44%)
Mohamed Rezk et al[3]	IUFD (58%)
Veena et al[11]	Fetal anomaly (20.2%)

The most common indication in Mifepristone with Misoprostol group is MTP request (52%) followed by Fetal anomaly (46%), Anhydramnios (2%) which is similar to the study by Shanthi Rani Balasubramanian et al[13] with Mifepristone with Misoprostol, in that also most common indication was MTP request (42%), fetal anomaly (34%), Anhydramnios (8%).

MIFEPRISTONE WITH MISOPROSTOL METHOD

INDICATIONS	In the present study	Shanthi Rani Balasubramanian et al[13]
MTP request	52%	42%
Fetal anomaly	46%	34%
Anhydramnios	1%	8%

FIG. 19. COMPARISON OF INDICATIONS



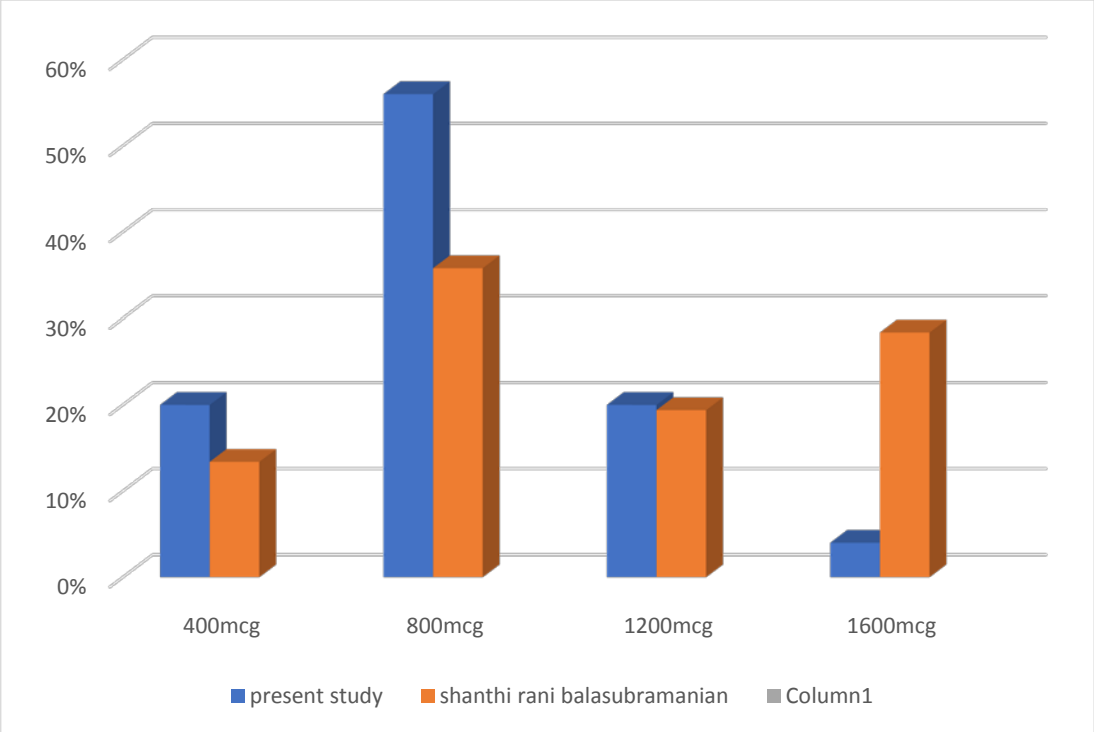
8. NO. OF MISOPROSTOL DOSES REQUIRED

FOLEY INDUCTION WITH MISOPROSTOL METHOD:

In this method, 20% of cases expelled with single dose of misoprostol (400mcg), 56% of cases expelled with 2 doses of misoprostol, 20% of cases expelled with 3 doses of misoprostol, 4% of cases expelled with 4 doses of misoprostol. In the study by Fathalla MM et al,[5] 13.4% cases expelled with one dose of misoprostol and 35.8% of cases expelled with 2 doses of misoprostol, 19.4% of cases expelled with 3 doses of misoprostol, 28.4% of cases expelled with more than three doses of misoprostol.

NO. OF MISO DOSES	In the present study	Fathalla MM et al[5]
1 (400mcg)	20%	13.4%
2 (800mcg)	56%	35.8%
3 (1200mcg)	20%	19.4%
4 (1600mcg)	4%	28.4%

FIG.20. COMPARISON OF MISOPROSTOL DOSES IN FOLEY INDUCTION AND MISOPROSTOL METHOD



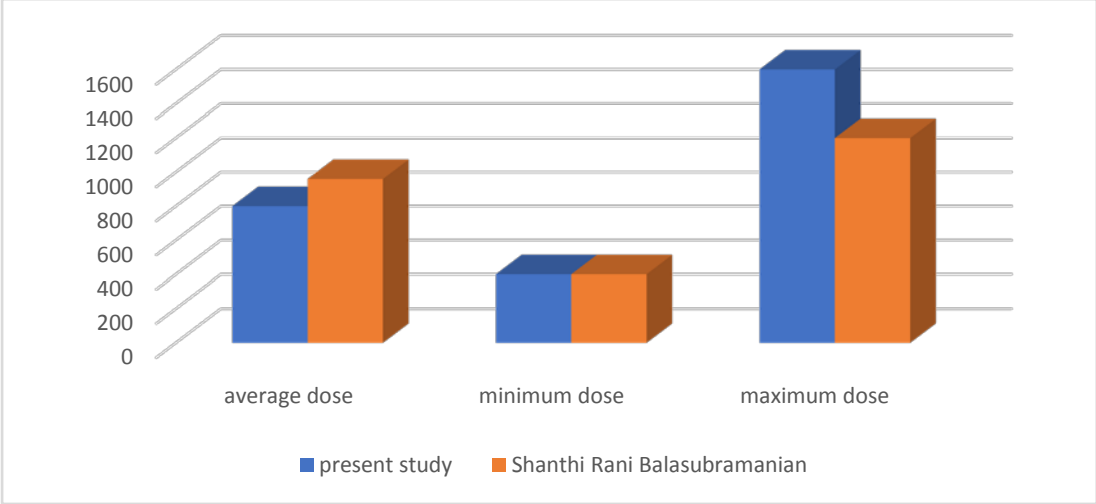
MIFEPRISTONE WITH MISOPROSTOL METHOD:

In the present study, average dose of misoprostol required for expulsion is 800mcg. Minimum dose required was 400mcg, maximum dose required was

1600mcg. In the study by Shanthi Balasubramanian et al,[13] average dose required was 960mcg, minimum dose was 400mcg and the maximum dose was 1200mcg

	In the present study	Shanthi Rani Balasubramanian et al[13]
Average dose	800mcg	960mcg
Minimum dose	400mcg	400mcg
Maximum dose	1600mcg	1200mcg

FIG.21. COMPARISON OF MISOPROSTOL DOSES IN MIFEPRISTONE AND MISOPROSTOL METHOD



9.INDUCTION TO ABORTION INTERVAL

It is defined as interval from prostaglandin administration to the expulsion of products of conception

In the present study, average induction to abortion interval in foley induction with misoprostol group is 8.84hours which is comparable to the study by Mohamed Rezk et al[3] showed that average induction to abortion interval is 8.16hours.

In mifepristone with misoprostol method, average induction to abortion interval is 8.14hours which is comparable to the study by Shanthi Rani Balasubramanian et al[13] who showed the induction to abortion interval with the same method is 7hours

	Foley induction + Misoprostol		Mifepristone + Misoprostol	
	Present study	Mohamed Rezk et al[3]	Present study	Shanthi Rani Balasubramanian et al[13]
MEAN IAI	8.84hrs	8.16hrs	8.14hrs	7hrs

9. ANALYSIS OF COMPLETE ABORTION

Unsuccesful abortion:

- Incomplete abortion- USG shows evidence of retained products
- If placenta is not expelled in 2hrs, requiring post abortal curettage

FOLEY INDUCTION WITH MISOPROSTOL METHOD:

In the present study, success rate is 90.5% where as the study by Mohamed Rezk et al[3] showed the success rate of 100% in foley induction with Misoprostol method

MIFEPRISTONE WITH MISOPROSTOL METHOD:

In the present study, success rate is 100% which is similar to the study by Patel U et al[14] & Nalini Sharma et al[15] who also showed 100% success rate whereas the study by Shanthi Rani Balasubramanian et al[13] had success rate of 98%

STUDY	SUCCESS RATE
In the present study	100%
Shanthi Rani Balasubramanian et al[13]	98%
Patel U et al[14]	100%
Nalini Sharma et al[15]	100%

10. SIDE EFFECTS:

In the present study, in Foley induction with misoprostol group, severe abdominal pain occurs in 20% of the cases, fever with chills and rigor in 6% of cases, vomiting in 8% of cases, diarrhoea in 2% of cases whereas the study by Mohamed Rezk et al[3] showed that fever with chills and rigor occurs in 13% of the cases, Vomiting in 4% of the cases. In the study by Veena et al, Diarrhoea occurs in 5% of the cases

In Mifepristone with Misoprostol group in our study, severe abdominal pain occurs in 22% of the cases, fever with chills and rigor in 4% of the cases, vomiting in 2% of the cases, diarrhoea in none of the cases which is comparable to the study by Shanthi Rani Balasubramanian et al[13] severe abdominal pain occurs in 28% of the cases, vomiting in 4% of the cases. Nalini Sharma et al showed fever in 5% of cases. In the study by Patel U et al also diarrhoea occurred in nil cases. Singh et al[16] observed that overall complication rate following MTP was less except for GI symptoms

11. COMPLICATIONS:

In our study, none of the cases reported to have uterine rupture and sepsis in foley induction with misoprostol group which is similar to the study by Mohamed Rezk et al.[3] Failure of method occurs in 2% of cases where as study by Mohamed Rezk et al[3] showed 100% success rate without any failure. Blood transfusion was required in 20% of the cases.

In mifepristone with misoprostol group also, sepsis and uterine rupture was not reported. Had 100% success rate without any failure. 22% of the cases required blood transfusion which is comparable to the study by Maninder Kauer et al[9] who also reported 0% of uterine rupture and sepsis whereas the need for blood transfusion was required in only 4% of the cases. As Misoprostol is widely used for second trimester terminations, there is still need to find the best route and dose with minimal IAI and minimal complications.[17]

SUMMARY

This is a comparative study of Foley induction with Misoprostol and Mifepristone with Misoprostol in second trimester abortion conducted at Govt Mohan Kumaramangalam Medical College Hospital, Salem

Total no. of patients-100

No. of women received Foley induction with Misoprostol method-50

No. of women received Mifepristone with Misoprostol method-50

Following were the observations of this study:

1. Most of the patients were in the age group of 26-30yrs and mostly they were parous women in both the groups
2. Only 6% of the patients were unmarried
3. Most of the patients belong to the socioeconomic class of IV and V. none of the patients were class I and class II in both the groups
4. About 57% of the patients were between the gestational age of 17-20weeks
5. The most common indication for second trimester termination is MTP request followed by fetal anomaly in both the groups.
6. No. of misoprostol doses required decreases with increasing parity and it is almost same in both the groups (foley induction+ misoprostol-average dose required was 920mcg, Mifepristone + misoprostol – average dose required was 800mcg) but it is not statistically significant

7. Induction-abortion time is less in patients with mifepristone with misoprostol compared to foley induction with misoprostol but it is not statistically significant
8. Expulsion was complete and the success rate is 100% in mifepristone with misoprostol group whereas in foley induction with misoprostol, success rate is 90.5%
9. Most common side effect was severe abdominal pain due to uterine cramps in both the groups.
10. None of the patients had sepsis or uterine rupture in both the groups.
11. Foley induction with misoprostol is less expensive and efficacious, but the success rate is 90.5% in this method whereas mifepristone followed by misoprostol has 100% success rate. But induction to abortion interval is almost comparable to mifepristone-misoprostol regimen

CONCLUSION

1. Mifepristone- Misoprostol is an effective procedure for second trimester abortion.
2. Complete abortion rate is high with mifepristone- misoprostol method
3. Similarly induction-abortion interval is less with this method but not statistically significant
4. Side effects and complications are almost same in both the groups
5. The cost which is high with mifepristone-misoprostol group but less expensive with foley induction-misoprostol group

This concludes that mifepristone-misoprostol combination for second trimester abortion is an effective option where cost is not a consideration. In places where mifepristone is not affordable, intracervical foley catheter and vaginal misoprostol is a safe and effective method for second trimester abortion which is comparable to mifepristone-misoprostol group with lower cost and no additional maternal risks.

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PROFORMA

NAME: **AGE:** **IP NO:**

ADDRESS: **DOA:**

DOD:

BOOKED/UNBOOKED: **LMP:**

EDD:

PRESENTING COMPLAINTS

DURATION OF AMENORRHEA

ABDOMINAL PAIN

BLEEDING PV

MENSTRUAL HISTORY

AGE AT MENARCHE;

MENSTRUAL CYCLES:

LMP: EDD:

MARITAL HISTORY

MARRIED SINCE

CONSANGUINEOUS/ NON CONSANGUINEOUS

OBSTETRIC HISTORY

GRAVIDA: PARA: ABORTION:

LIVE: DEATH:

IMMUNISATION:

PREVIOUS PREGNANCY:

PRESENT PREGNANCY:

1^{ST} TRIMESTER:

2^{ND} TRIMESTER:

LAST CHILD BIRTH:

PAST HISTORY

HYPERTENSION:

DIABETES:

EPILEPSY:

RHEUMATIC HEART DISEASE:

THYROID DISEASE:

BRONCHIAL ASTHMA:

GENERAL EXAMINATION

HT: WT: BMI:

TEMP: PR: BP: RR:

PALLOR / ICTERUS / PEDAL EDEMA

CVS:

RS:

PER ABDOMEN

PER VAGINAL EXAMINATION:

***INVESTIGATIONS*:**

BLOOD INVESTIGATIONS:

HB: PCV: PLATELETS:

TC: DC:

BLOOD SUGAR:

BLOOD UREA:

SERUM CREATININE:

BLEEDING TIME:

CLOTTING TIME:

USG OBSTETRICS

MODE OF INDUCTION:

GROUP1: MIFEPRISTONE WITH MISOPROSTOL

GROUP 2: FOLEY BULB INDUCTION WITH MISOPROSTOL

TIME OF INDUCTION:

TIMEOF EXPULSION:

CHECK CURETTAGE DONE OR NOT:

CHECK SCAN:

COMPLICATIONS :

TIME INTERVAL BETWEEN INDUCTION AND EXPULSION:

MASTER CHART

S.NO	IP.NO	NAME	AGE	MARITAL STATUS	S.E.S	OBSTETRIC CODE	IMMUNISATION	GA	INDICATIONS	METHOD ADOPTED	NO. OF MISO DOSES	SIDEEFFECTS	I-A-I	POST ABORTAL USG	COMPLICATIONS
1	62241	SOUNDARYA	20	M	III	1	I	2	2	A	3	1,3	14 HRS		
2	72221	SUGANYA	22	M	V	2	I	2	2	A	2	2	10 HRS		
3	41270	RANJITHA	24	M	IV	3	I	2	1	A	2		9 HRS		5
4	56742	NIRMALA	28	M	V	4	UI	1	1	B	1	1,3	4 HRS		
5	54482	THENMOZHI	26	M	IV	3	UI	1	1	B	2	2	8.5 HRS		
6	72501	PACHIYAMMAL	18	M	V	2	I	2	2	B	3	1	13 HRS		
7	62647	VETRISELVI	27	M	IV	3	UI	1	2	B	2	3	9 HRS		
8	62471	JOTHI	21	M	IV	3	I	1	4	A	3	2	13 HRS		
9	62542	MEHANI	25	M	III	3	I	2	2	A	2		9 HRS	RPOC+	
10	41456	CHITHRA	31	M	IV	4	UI	1	1	B	1	1	5 HRS		5
11	62071	PRIYA	30	M	V	3	I	2	3	A	2	3	9.5 HRS		
12	60692	SIVAGAMI	26	M	IV	2	I	2	4	A	3	1	2.5 HRS		
13	61568	PALANIYAMMAL	19	UM	IV	1	UI	2	2	B	3	1	14 HRS		
14	61427	PREETHA	22	M	IV	1	I	2	2	A	4	2	18 HRS		
15	60518	DHANAKODI	32	M	V	4	I	1	1	A	2		8.5 HRS		
16	20867	ISHWARYA	22	UM	V	1	UI	2	2	A	3		13 HRS		
17	25692	THENMOZHI	27	M	III	3	I	2	1	B	1	3	6 HRS		
18	26596	SEVVANTHI	24	M	IV	3	I	2	2	A	2		8.5 HRS		5
19	55004	VASANTHA	30	M	V	4	UI	2	3	A	2	1,3	9 HRS		
20	36594	PANCHALAI	20	M	IV	2	I	1	4	A	2	2	9 HRS		
21	22166	RASATHI	26	M	V	3	UI	1	2	A	2		9.5 HRS		
22	53640	PRIYADHARSHINI	25	M	IV	3	UI	2	1	B	2	1,3	9 HRS		
23	55089	VASANTHI	32	M	V	2	I	2	2	A	3	3	12.5 HRS		
24	21803	SUSEELA	21	M	IV	2	I	2	2	B	3	1	14 HRS		

S.NO	IP.NO	NAME	AGE	MARITAL STATUS	S.E.S	OBSTETRIC CODE	IMMUNISATION	GA	INDICATIONS	METHOD ADOPTED	NO. OF MISO DOSES	SIDEEFFECTS	I-A-I	POST ABORTAL USG	COMPLICATIONS
25	23482	SHANMUGAPRIYA	19	M	III	2	UI	2	4	A	3	1	13 HRS		
26	51357	SRIPRIYA	21	M	IV	2	I	2	2	B	3	2	14 HRS		
27	51642	RANJITHA	34	M	V	4	UI	1	1	B	2	1	9 HRS	RPOC+	
28	35606	KANAGAVALLI	28	M	IV	4	UI	1	1	B	1		5 HRS		5
29	41568	VANNAMATHI	29	M	IV	2	I	2	2	B	2	1	9 HRS		
30	52580	MOOGAMBIGAI	25	M	IV	3	I	1	1	A	2	2	8.5 HRS		
31	29660	KAVITHA	18	UM	V	1	UI	2	2	B	3	2	13 HRS		
32	35750	RAMYA	34	M	V	3	I	2	1	A	2	2	9 HRS		5
33	45691	PACHIYAMMAL	29	M	V	4	I	2	1	B	2	1,3	8.5 HRS		
34	52589	VALLIYAMMAL	28	M	IV	2	I	2	2	B	3	1	14 HRS		
35	35462	VALLI	23	M	III	2	I	2	2	B	4		17 HRS		
36	26162	PALANIYAMMAL	31	M	V	4	UI	1	1	A	2	1,3	9 HRS		
37	34568	PECHI	28	M	IV	3	UI	1	2	B	2	1	9 HRS		
38	34730	SURYA	19	M	IV	2	I	2	4	A	3	2	13 HRS		
39	42781	SELVI	27	M	V	3	UI	1	1	B	2	1,3	9 HRS		
40	33770	PRIYA	27	M	IV	3	UI	1	1	A	2		10 HRS		
41	56724	PREMA	24	M	III	3	I	1	1	A	2		9 HRS		
42	45961	KAVITHA	26	M	V	4	UI	2	1	A	2	1	10 HRS	RPOC+	
43	35490	PERUMAYEE	29	UM	IV	1	UI	2	2	B	3		13.5 HRS		
44	57851	ILAKKIYA	20	M	IV	2	I	2	2	A	3		13 HRS		
45	45682	KANNAMMAL	35	M	V	4	I	1	2	B	2	1	9 HRS		5
46	56982	JOTHI	25	M	III	4	UI	2	1	A	3		13 HRS		
47	47547	PRIYA	20	UM	IV	1	UI	2	2	B	4	1,3	18 HRS		
48	48942	CHITHRA	28	M	V	2	I	2	4	A	3	2	13 HRS		
49	35965	MANIMEGALAI	26	M	V	3	UI	1	2	B	2		9 HRS		5
50	29543	DIVYA	25	M	V	3	I	1	1	B	2	1	10 HRS		

S.NO	IP.NO	NAME	AGE	MARITAL STATUS	S.E.S	OBSTETRIC CODE	IMMUNISATION	GA	INDICATIONS	METHOD ADOPTED	NO. OF MISO DOSES	SIDEEFFECTS	I-A-I	POST ABORTAL USG	COMPLICATIONS
51	36805	PALANIYAMMAL	32	M	III	1	I	2	4	A	3	3	14 HRS		
52	34990	PREMA	21	M	IV	2	I	2	2	B	3	3	13.5 HRS		
53	47891	DHANAM	29	M	IV	4	UI	2	1	A	2		10 HRS		
54	55072	VANASELVI	19	M	IV	1	I	2	2	B	4	1	17 HRS		
55	53246	RAJI	26	M	V	4	UI	1	1	A	2	1	9 HRS		5
56	45692	PAVITHRA	21	M	IV	3	I	2	2	A	3		13 HRS		
57	45781	VASANTHA	26	M	IV	2	I	2	2	B	3	1	14 HRS		
58	31922	LAKSHMI	22	M	IV	3	UI	1	1	A	2		10.5 HRS		
59	34956	THENMOZHI	34	M	V	4	UI	1	1	B	2	1	9 HRS		5
60	35958	RANJITHA	28	M	IV	4	UI	1	1	B	2		10 HRS		
61	45986	KAVYA	18	M	V	2	I	2	2	B	3	1	15 HRS		
62	52923	PRIYA	22	M	III	3	I	2	1	A	2	1	10 HRS		5
63	53286	LAKSHMI	28	M	IV	2	I	1	4	A	3		13 HRS		
64	58291	VELLAIYAMMAL	32	M	V	3	UI	1	1	A	2	1,3	10.5 HRS		
65	41325	VELVIZHI	27	M	IV	4	UI	2	1	B	2		9 HRS		
66	27896	KARTHIGA	20	M	IV	2	I	2	2	B	3	1	14 HRS		
67	37820	SATHYA	25	M	IV	3	UI	1	1	B	2	2	9.5 HRS		
68	39952	DEVI	29	M	V	4	UI	2	1	A	2		9 HRS	RPOC+	5
69	47956	ANJALAI	32	M	IV	4	UI	1	1	B	1	3	6 HRS		5
70	48253	PREMA	26	M	IV	2	I	1	4	A	3	2	13 HRS		
71	49304	SELVI	23	M	V	3	I	1	1	A	2		9.5 HRS		
72	52305	SIVAGAMI	28	M	V	4	UI	2	1	B	2	1	11HRS		5
73	63531	DHANAM	25	M	III	1	I	1	4	A	3		14 HRS		
74	60356	BHARATHI	24	M	IV	4	UI	2	1	B	2		10HRS		5
75	59505	MANI	21	M	IV	2	I	2	2	A	4		FAILED		3,4,5
76	67582	KAVITHA	22	M	III	3	I	2	2	B	3		13 HRS		

S.NO	IP.NO	NAME	AGE	MARITAL STATUS	S.E.S	OBSTETRIC CODE	IMMUNISATION	GA	INDICATIONS	METHOD ADOPTED	NO. OF MISO DOSES	SIDEEFFECTS	I-A-I	POST ABORTAL USG	COMPLICATIONS
77	59483	PREETHA	31	M	IV	4	UI	2	1	B	2		12HRS		5
78	46791	AGALYA	21	M	IV	2	I	1	4	A	3	1	14 HRS		
79	45332	JOTHI	26	M	V	3	UI	1	1	B	2	1,3	10 HRS		
80	44976	SUBBAMMAL	27	M	IV	4	UI	2	1	B	2		9 HRS		5
81	35382	KARUPAYEE	25	M	IV	3	UI	1	1	B	2		10.5 HRS		
82	29790	DEVIKODI	22	M	IV	1	I	1	4	A	4	2	17 HRS		
83	35921	MEGALAI	31	M	V	4	UI	2	1	A	2		8.5 HRS		5
84	34703	JANANI	28	M	V	1	I	2	2	B	3	3	13 HRS		
85	35962	THENMOZHI	29	M	IV	4	UI	2	1	A	1	3	7 HRS		
86	45983	MEGALA	26	M	III	3	I	1	1	A	2	1	10 HRS		5
87	47051	SUGANYA	24	M	IV	3	I	1	1	B	2	1	9 HRS		
88	43001	GAYATHRI	28	M	V	2	I	1	3	B	2		10 HRS		
89	30563	PARVATHI	31	M	IV	4	UI	1	1	A	2		9 HRS		
90	33053	JANAKI	25	M	V	3	I	2	1	B	2	2	9.5 HRS		
91	25962	SUMATHI	21	UM	IV	1	I	1	2	A	3		14 HRS		
92	31084	KAVERIYAMMAL	29	M	IV	4	UI	2	1	B	2		9 HRS		
93	33582	LAKSHMI	33	M	IV	4	UI	1	1	A	2	1	9 HRS		5
94	36982	DEVI	29	M	IV	4	UI	2	1	B	1	1	6 HRS		
95	40583	RAMYA	25	M	V	2	I	2	2	A	3		13HRS		5
96	41392	MENAGA	28	M	V	4	UI	1	1	A	2		9 HRS		
97	45683	VETRISELVI	26	M	IV	3	I	1	2	B	1	3	6.5 HRS		
98	47921	SATHYA	30	M	IV	1	I	2	2	B	2		10 HRS		
99	48903	SINDHU	23	M	V	4	I	1	1	B	1		7 HRS		5
100	52692	MONISHA	21	M	IV	1	I	2	4	A	4	2	FAILED		3,4,5

KEY TO MASTER CHART

MARITAL STATUS

M- MARRIED

UM- UNMARRIED

OBSTETRIC CODE

1- PRIMI

2- G2

3- G3

4- G4

5- >G5

IMMUNISATION STATUS

I- IMMUNISED

UI- UNIMMUNISED

GESTATIONAL AGE

1- 14 TO 16 WEEKS

2- 17 TO 20WEEKS

INDICATIONS

1- MTP REQUEST

2- FETAL ANOMALY

3- ANHYDRAMNIOS

4- IUFD

METHOD ADOPTED

A- FOLEY INDUCTION AND MISOPROSTOL

B- MIFEPRISTONE AND MISOPROSTOL

NO. OF MISOPROSTOL DOSES

1- 400 mcg

2- 800mcg

3- 1200mcg

4- 1600mcg

5- 2000mcg

SIDE EFFECTS

1- SEVERE ABDOMINAL PAIN

2- FEVER WITH CHILLS & RIGOR

3- VOMITING

4- DIARRHOEA

COMPLICATIONS

1- SEPSIS

2- RUPTURE UTERUS

3- FAILURE OF METHOD

4- NEED OF BLOOD TRANSFUSION