MEDICAL TERMINATION OF PREGNANCY [ACT AND METHODS]

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MCN

INTRODUCTION

- Medical termination of pregnancy is refers as the induction of abortion. The induction of abortion may be legal & illegal. There are many countries in the globe where the abortion is not yet legalised. In india the abortion was legalised by “medical termination of pregnancy Act ”of 1971, &has been inforced in the april 1972.

DEFINITION

- Deliberate termination of pregnancy either by the medical & surgical method before the viability of the fetus is called induction of abortion

MEDICAL TERMINATION OF PREGNANCY ACT 1971:-

- The Indian abortion laws falls under the Medical Termination of Pregnancy (MTP) Act, which was enacted by the Indian Parliament in the year 1971 with the intention of reducing the incidence of illegal abortion and consequent maternal mortality and morbidity. The MTP Act came into effect from 1 April 1972 and was amended in the years 1975 and 2002.
- Recently, the Supreme Court permitted a rape survivor to terminate her pregnancy at 24 weeks, which is beyond the permissible 20 weeks limit prescribed under the Medical Termination of Pregnancy Act, 1971

LEGAL ABORTION :-

- Termination is performed by the medical practitioners(assisted in at least 25 mtp &degree in OBG) by the act.
- Termination is done at the place approved under the act.
- Termination done for condition & within the gestation week prescribed by the act.
- The abortion has to be reported to the director of health service of the state.

INDICATION

- Women whose physical and/or mental health were endangered by the pregnancy
- Women facing the birth of a potentially handicapped or malformed child
- Rape
- Pregnancies in unmarried girls under the age of eighteen with the consent of a guardian
- Pregnancies that are a result of failure in sterilisation

FIRST TRIMESTER TERMINATION OF PREGNANCY

METHODS OF FIRST TRIMESTER ABORTION:

Mifepristone (RU-486) and Misoprostol –

- Mifepristone(200mg) an analog of progestin (norethindrone) acts as an antagonist, blocking the effect of natural progesterone.

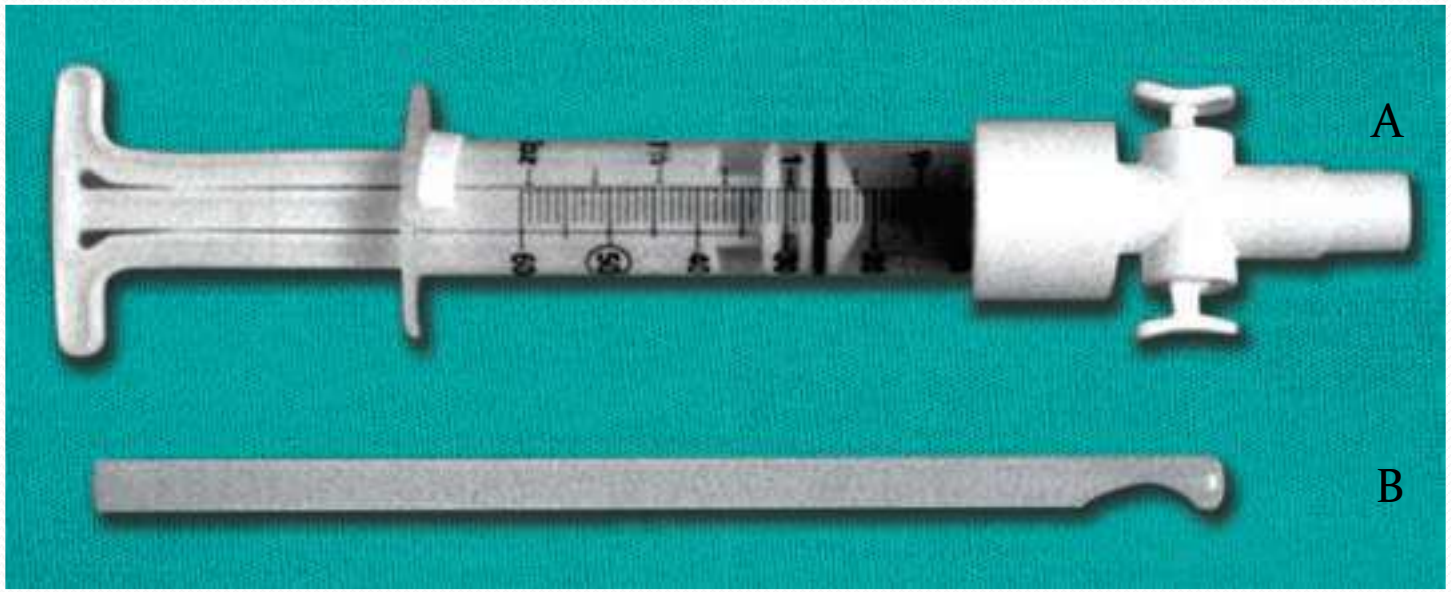
- Addition of low dose prostaglandins (800mg) (PGE1) improves the efficiency of first trimester abortion. It is effective upto 63 days and is highly successful when used within 49 days of gestation.

- **<u>Methotrexate and Misoprostol –</u>**
  - Methotrexate 50 mg/m^2 IM (before 56 days of gestation) followed by 7 days later misoprostol 800 µg vaginally is highly effective.
  - Misoprostol may have to be repeated after 24 hours if it fails.
  - **Methotrexate and misoprostol regimen is less expensive but takes longer time than Mifepristone and Misoprostol.**

SURGICAL METHODS OF FIRST TRIMESTER ABORTION:

- **MENSTRUAL REGULATION:**
  - It is the aspiration of the endometrial cavity within 14 days of missed period in a woman with previous normal cycle.
  - The operation is done as an out patient or an office procedure
  - It is done with aseptic precautions.
  - After introducing the posterior vaginal speculum, the cervix is steadied with an Allis forceps.

- Cervix may be gently dilated using 4 or 5 mm size dilators.
- The cannula is rotated, pushed in and out with gentle strokes.
- The operator should examine the aspirated tissue by floating it in a clear plastic dish over a light source.
- This will help to detect failed abortion, molar pregnancy or ectopic pregnancy.
- 5–6 mm suction cannula (Karman's) is then inserted and attached to the 50 mL syringe for suction.
- The procedure is contraindicated in the presence of pelvic inflammation.



Menstrual regulation equipment —
(A) Syringe
(B) Plastic cannula with whistle tip used in suction evacuation

- **<u>VACUUM ASPIRATION (MVA/EVA)</u>:**
  - Done upto 12 weeks with minimal cervical dilatation
  - It is performed as an outpatient procedure using a plastic disposable Karman's cannula (up to 12 mm size) and a 60 mL plastic (double valve) syringe.
  - It is quicker (15 minutes), effective (98–100%), less traumatic and safer than dilatation, evacuation and curettage.
  - The procedure may be manual vacuum aspiration (MVA) or electric vacuum aspiration (EVA).
  - Hand operated double valve plastic syringe is attached to a cannula.
  - The cannula is inserted transcervically into the uterus and the vacuum is activated.
  - A negative pressure of 660 mm Hg is created.
  - Aspiration of the products of conception is done

DILATATION AND EVACUATION (D+E) &(D+C) :

The operation consists of dilatation of the cervix and evacuation of the product conception from the uterus

PROCEDURE :-

1. Vaginal examination is done to note the size and position of the uterus and to note the state of cervix. *USG should be performed when there is any doubt about the gestational age.*
2. Posterior vaginal speculum is introduced and an assistant is asked to hold it.
3. The anterior lip of the cervix is to be grasped by an Allis forceps.

4. The cervix may have to be dilated with smaller size graduated metal dilators up to one size less than that of the suction cannula. Feeling of “snap” of the endocervix around the dilator is characteristic. Instead laminaria tent 12 hours before (osmotic dilator) or misoprostol (PGE1) 400 µg given vaginally 3 hours prior to surgery produces effective dilatation.
5. Intravenous methargin 0.2 mg is administered.
6. The appropriate suction cannula is fitted to the suction apparatus by a thick rubber or plastic tubing. The cannula is then introduced into the uterus, the tip is to be placed in the middle of the uterine cavity.
7. **The pressure of the suction is raised to 400–600 mm Hg.** The cannula is moved up and down and rotated within the uterine cavity (360°) with the pressure on. The suction bottle is inspected for the products of conception and blood loss. The suction is regulated by a finger placed over a hole at the base of the cannula

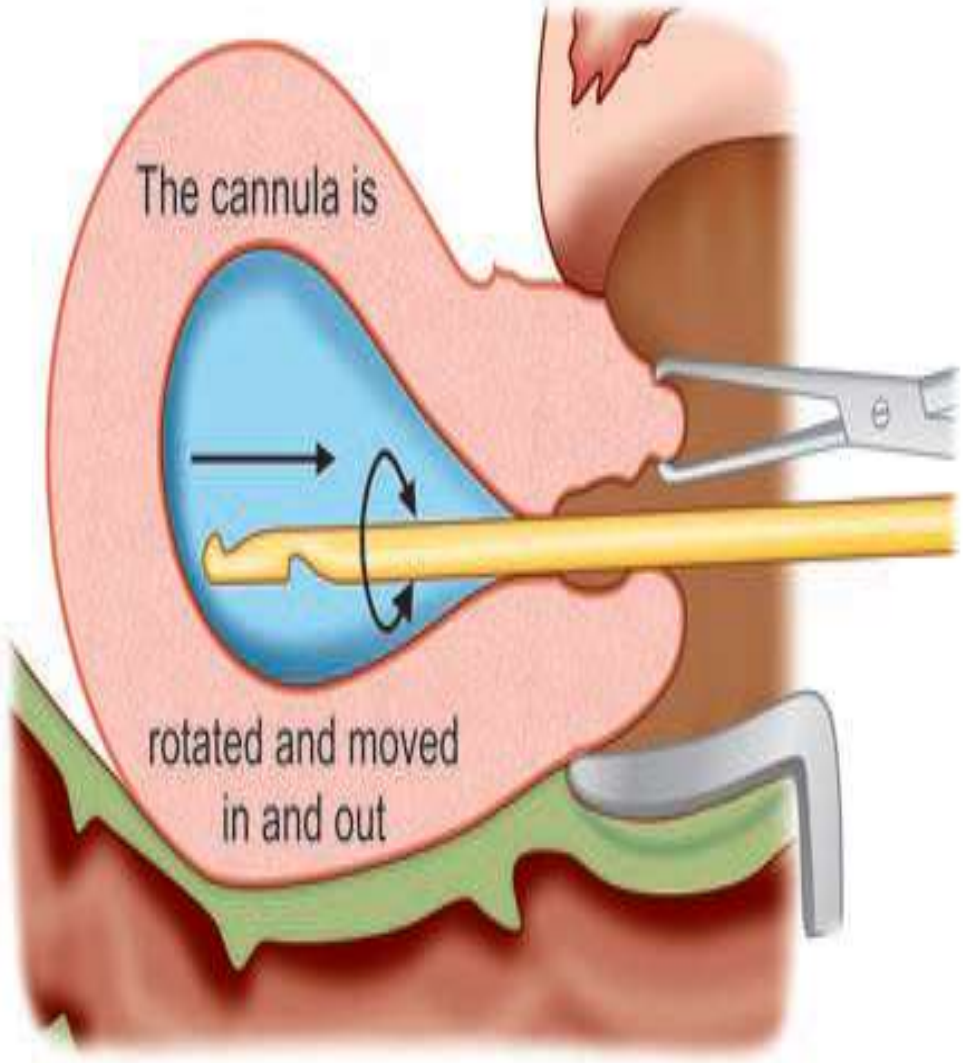
The end point of suction is denoted by:

(a) No more material is being sucked out

(b) Gripping of the cannula by the contracting smaller size uterus

(c) Appearance of bubbles in the cannula or in the transparent tubing.

8. After being satisfied that the uterus is remaining firm, and there is minimal vaginal bleeding, the patient is brought down from the table after placing a sterile vulval pad.



SECOND TRIMESTER TERMINATION OF PREGNANCY

MEDICAL METHODS:

- **PROSTAGLANDINS:**
  - They act on the cervix and the uterus.
  - The PGE (dinoprostone, sulprostone, gemeprost, misoprostol) and PGF (carboprost) analogues are commonly used
  - PGEs are preferred as they have more selective action on the myometrium and less side effects.

1. **Misoprostol (PGE1 analogue)**
   - 400–800 µg of misoprostol given vaginally at an interval of 3–4 hours is most effective as the bioavailability is high.
   - Alternatively, first dose of 600 µg misoprostol given vaginally, then 200 µg, orally every 3 hours are also found optimum.
   - Recently 400 µg misoprostol is given sublingually every 3 hours for a maximum of five doses.
   - This regimen has got 100% success in second trimester abortion.
2. . **Gemeprost (PGE1 analogue):**
   - 1 mg vaginal every 3–6 hours for five doses in 24 hours has got about 90% success.
   - The mean induction-abortion interval was 14–18 hours.

2. **Mifepristone and prostaglandins**:
   - Mifepristone 200 mg oral, followed 36–48 hours later by misoprostol
   - 800 µg vaginal; then misoprostol 400 µg oral every 3 hours for 4 doses is used.
   - Success rate of abortion is 97% and median induction delivery interval is 6.5 hours.
   - Pretreatment with mifepristone reduces the induction— abortion interval significantly compared to use of misoprostol alone.
3. **Prostaglandin F2 (carboprost):-**

-250mg IM every 3 hours for a maximum 100 dose can be used

- **OXYTOCIN:**
  - High dose oxytocin as a single agent can be used for second trimester abortion.
  - It is effective in 80% of cases.
  - It can be used with intravenous normal saline along with any of the medications used either intra-amniotic or extra-amniotic space in an attempt to augment the abortion process.
  - **MODE OF ACTION:**
    - Myometrial oxytocin receptor concentration increases maximum (100-200 fold) during labour.
    - Oxytocin acts through receptor and voltage mediated calcium channels to initiate myometrial contractions.

SURGICAL METHODS:

It is difficult to terminate pregnancy in the second trimester with reasonable safety as in first trimester.

- **Between 13 and 15 weeks**
  - **Dilatation and Evacuation** in the midtrimester is less commonly done.
    - Pregnancies at 13 to 14 menstrual weeks are evacuated.
    - In all midtrimester abortion cervical preparation must be used (WHO 1997) to make the process easy and safe.
    - Intracervical tent (Laminaria osmotic dilator), mifepristone or misoprostol are used as the cervical priming agents.
    - *The procedure may need to be performed under ultrasound guidance to reduce the risk of complications*.
    - Simultaneous use of oxytocin infusion is useful.

Between 16 and 20 weeks:

---- Intra-amniotic
---- Extra-amniotic

- **Intra-amniotic:**
  - **Intra-amniotic instillation of hypertonic saline** (20%) is less commonly used now. It is instilled through the abdominal route.
    - **Mode of action**: There is liberation of prostaglandins following necrosis of the amniotic epithelium and the decidua. This in turn excites uterine contraction and results in the expulsion of the fetus.
    - **Procedure**:
      - Preliminary amniocentesis is done by a 15 cm 18 gauge needle.
      - **The amount of saline to be instilled is calculated as number of weeks of gestation multiplied by 10 mL.**
      - The amount is to be infused slowly at the rate of 10 mL/min.

- **Extra-amniotic:**
  - **Extra-amniotic instillation of 0.1% ethacrydine lactate**
    - done transcervically through a number 16 Foley's catheter
    - The catheter is passed up the cervical canal for about 10 cm above the internal os between the membranes and myometrium and the balloon is inflated (10 mL) with saline.
    - It is removed after 4 hours. The success rate is similar to saline instillation but is less hazardous.
    - It can be used in cases contraindicated for saline instillation.
    - Stripping the membranes with liberation of prostaglandins from the decidua and dilatation of the cervix by the catheter are some of the known factors for initiation of the abortion.

- **HYSTEROTOMY**
  - **Hysterotomy is an operative procedure of extracting the products of conception out of the womb before 28th week by cutting through the anterior wall of the uterus.**
  - The operation is usually done through the abdominal route.
  - The operation is rarely done these days for the purpose of MTP.
  - **Complications:**
    1. Hemorrhage and shock
    2. Peritonitis
    3. Intestinal obstruction

COMPLICATION OF MTP :-

- **IMMEDIATE:**
  - Injury to the cervix (cervical lacerations)
  - uterine perforation during D and E
  - Haemorrhage and shock due to trauma, incomplete abortion, atonic uterus or rarely coagulation failure
  - Thrombosis or embolism
- **REMOTE:**
  - The complications are grouped into:
    - ***Gynecological***
    - ***Obstetrical***

- ***Gynecological complications include—***
  I. menstrual disturbances
  II. chronic pelvic inflammation
  III. scar endometriosis (1%)

  Obstetrical complications include—
  I. ectopic pregnancy (three-fold increase)
  II. preterm labour
  III. dysmaturity,
  IV. rupture uterus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YOU