

## INTRAUTERINE CONTRACEPTIVE DEVICES

- Intrauterine devices
  - I. Non medicated/ Inert IUD's (1st generation)
    - 1. Lippes loop • 2. Grafenberg's ring
  - II. Medicated/ Bioactive IUD's • I) Metal ions (copper) (2nd generation)
    - I. Earlier devices • I. Copper-7 • II. Copper T-200
    - II. Newer devices • I. Variant of the T device [ Cu-T-220-B, Cu-T-380 A ] • II. Nova T (silver)

core)

- III. Multiload device • a. ML-Cu-250 • b. ML-Cu-375 • 2) Hormones (progestogens) (3rd generation) • I. Progestasert • II. LNG-20/ Mirena

- I. Non medicated/ Inert IUD's (1st generation)

- 1. Lippes loop •

- 2. Grafenberg's ring •

- \* Double S shaped device made of polyethylene •

- \* Contains Barium Sulphate to allow x rays observation

- - \* 4 sizes A, B, C & D.

- - \* Failure rate (Lippes loop) - 3% (highest pregnancy rate & highest expulsion rate)

- - \* Life span (Lippes loop) - as long as required if there is no adverse effects

- II. Medicated/ Bioactive IUD's • I) Metal ions (copper) (2nd generation)

- I. Earlier devices [Copper-T, Copper T-200}

- Failure rate - 3% • II. Newer devices • I. Variant of the T device

- I. Cu-T-220-BB is for size • II. Cu-T-380-AA is for Ag of silver or Au of gold • \*

Failure rate - 0.5 - 0.8%, Life span - 10 years [d/t High efficacy, Long acting & Low expulsion rate]

- II. Nova T (silver core) Life span - 5 years
- III. Multiload device {ML-Cu-250, ML-Cu-375}

- Copper had a strong Anti Fertility Effect

- Numbers included refers to Surface Area (in sq. mm) of copper on the device

- Gynefix • \* New frameless IUD • \* 4-6 Copper tubes ties together with a thread •

- \* Gynefix 200- 4 tubes & Gynefix 330- 6 tubes • \* Embedded into myometrium (fundus) • \* Suitable for Nulliparous women
- 2) Hormones (progestogens) (3rd generation) • i. Progestasert • T shaped •

38mg progesterone (loading dose) than 65 mcg daily • First hormonal uterine device developed in 1976 • Failure rate- 1.5% (lowest expulsion rate & lowest removal rate) Life span-1 year

• ii. LNG-20/ Mirena • T shaped 20 mcg daily • Failure rate 0.2% (Lowest pregnancy rate & Highest removal rate)

## MECHANISM OF ACTION OF IUD

### 1. Copper

- Enhances cellular response in endometrium & affects enzymes in uterus
- Alter biochemical composition of cervical mucus

- Affects sperm motility & its survival

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## 2. Hormones

- Increase viscosity of cervical mucus which prevent sperms from entering the cervix
- Maintains high level of progesterone & low level of oestrogen making endometrium unfavorable to implantation
- Foreign body reaction-Biochemical / cellular changes in endometrium-Impair viability of gamete, Reduces chances of fertilization (best answer)

## IDEAL CANDIDATE FOR IUD'S

- Borne at least 1

child

- If she is willing to check IUD tail
- No history of pelvic disease (PID)
- Normal menstrual periods
- \* IUD is an ideal contraceptive for lactating women because it has no effect on the quality or composition of breast milk

## TIMING OF INSERTION OF IUD

- 1) During menstruation or within 10 days of menstruation
- Best time for insertion is within 5 days of menstruation (Cervical canal

opens

- 2) Immediate postpartum insertion • During 1st wk after delivery before the women leaves the hospital (Best within 24 hours of delivery)
- 3) Post puerperal insertion - 6-8 WKS AFTER DELIVERY • Fertility returns within 1 year in 70% of users after removal of IUD's

## NON CONTRACEPTIVE BENEFITS OF IUD

- Useful in • H-Hormone Replacement Therapy (HRT) • E- Endometrial cancer • M-Menorrhagia • A-Adjuvant therapy to tamoxifen • A-Asherman's syndrome •

A-Anaemia

## ADVERSE EFFECTS OF IUD

1) Bleeding • Most common side effect of IUD • 1st generation > 2nd generation > 3rd generation

2) Pain > 2nd major A/E, Most common cause leading to removal of IUD's (15-40%)

3) Uterine perforation

4) Pelvic infection-Gardnella, anaerobic streptococci, bacteroides, coliform bacilli & actinomyces

5) Ectopic pregnancy

6) Pregnancy with IUD's in situ • Either

abort it or if wants to continue than • If thread is visible → pull it out • If thread not visible → evacuate the uterus

## 7] Expulsion

### CONTRAINDICATION OF IUD'S

- Suspected pregnancy • PID • Vaginal bleeding • Ca cervix/ uterus / pelvic tumours • Previous ectopic pregnancies • IUD is not a method of 1st choice for Nulliparous women • Not recommended for women with multiple partners, because of risk of PID & possible infertility • Not recommended after 2nd trimester