CONTRACEPTION

I Female contraceptives

- oral
  - combined pills
  - phasic pills
  - post coital pills
  - mini pills
- injectable
- implants

1. oral contraceptive pills

MOA

- inhibition of gonadotropin release from pituitary by reinforcement of normal feedback inhibition.
  (progestin makes LH secretory pulses while estrogen reduces FSH secretion. Both synergize to inhibit mid cycle LH surge)
- progestin can make cervical mucus thick which prevents sperm penetration
- modifies uterine & tubal contraction to disfavour fertilization
- make endometrium unsuitable for implantation.
- can dislodge a just implanted blastocyst or interfere with fertilization / implantion

a) combined pills / monophasic pill

- contains estrogen & progesterone in a fixed dose to be taken on all days of a treatment cycle
- estrogen is ethinyl estradiol (30µg/20µg)
- progestin is Levonorgestrel 60µg
  desogestrel 60µg
  drestodene 40µg

Action

- estrogen & progesterone synergise to (-) ovulation.
- progestin ensures prompt bleeding at the end of cycle & also block the risk of developing endometrial carcinoma due to estrogen

- Administration :- 1 tab for 21 days starting from 5th day of menstruation Next course started after 7 days in which bleeding occurs
- efficacy : 98-99.9%

b) phased pills

- aims at reducing total contraception dose w/o compromising efficacy.
- mimics normal hormone pattern in a cycle.
- estrogen dose is kept constant on all days while progestin is low in 1st phase & highes in 2nd & 3rd phase

Recomended for :-

- women > 35yrs
- For those with no withdrawal bleeding while on monophasic pill
- other risk factors like uterine hypertrophy

c) progestin only pill / mini pill

- contains a low dose of progestin only
- estrogen is eliminated because most long term risk of OCP are due to estrogen
- Administered daily w/o gap
- Recomended for women in which estrogen is C/I

disadvantages

- lower efficacy - less popular
- irregular cycle
- chance of ovulation is 20-30%

d) Emergency / postcoital pill :

- For preventing unwanted pregnancy following unprotected intercourse.
- Levonorgestrel 0.75mg 2 doses 12hrs apart or 1.5mg single dose within 72 hrs of intercourse
- mifepristone 600mg single dose within 72 hrs of IC

- ulpristal (30 mg single dose within 12 hrs of intercourse

A/E

- Nausea, vomiting, Headache
- spotting > Breast discomfort
- weight gain, acne
- chloasma - pigmentation of cheeks & nose
- pruritis vulvae
- carbohydrate intolerance, precipitation of DM
- mood swings

complication

- DVT, TE, thrombosis
- gallstone, ↑BP
- genital carcinoma, Benign hepatomas

C/I

- H/O thromboembolic, coronary, cerebrovascular disease
- moderate to severe HTN
- Active liver disease, suspected malignancy of breast, genitals
- porphyria
- impending major surgery to prevent risk of postoperative thrombo embolism

Relative C/I

- DM, obesity, smoking, uterine Hypertrophy, >35yrs, mental ill
- Gall bladder disease

other uses of contraceptives

- reduce menstrual blood loss & hence anemias
- regularisation of irregular cycle
- premenstrual tension, dysmenorrhea decreased
- Endometriosis, PID improved
- reduce incidencence of fibrocystic breast disease & ovarian cyst

2. injectable contraceptives

- develop to obviate the need for daily oral pills
- given IM as oily solution
- Highly effective

Limitations

- Animal studies indicate carcinogenic potential
- menstrual irregularities
- delayed return of fertility
- weight gain
- Headache

Recomended only in women who are unlikely to use other methods

preparation

(long acting progesterone)

- DMPA (depot medroxyprogesterone Acetate) 150 mg (during first 5 days of cycle) deg IM once every 3 months
- Norethindrone enanthate 200mg at 2month intervals

3. implant

- implant under the skin / intrauterine from which drug released slowly over 1-5 yrs
- Norplant (set of 6 capsules of levonorgestrel which release the drug for 5 years)
- PROGESTASERT (progestin impregnated IUCD) contain 52 mg of Levonorgestrel that is released locally at the endometrium active for 5 years

→ MALE CONTRACEPTIVES

- Aid by (-) spermatogenesis
- No satisfactory drug therapy because of
  - complete suppression of spermatogenesis w/o affecting

other tissue not possible.

- spermatogenesis takes 64 days. hence drug given has to act longer to produce infertility.
- gonadotropin secretion inhibition inhibit testosterone synthesis also.
- Risk of AIO

Drug used for MC

- Anti androgens
  - ER & PR
  - Androgens
- superactive GnRH analogs.
- cytotoxic drugs.
- Progestogen.