DRUGS USED FOR CONTRACEPTION

INTERMED

OBJECTIVES

After completing this topic the student should be able to:

- Understand the basic pharmacological principles of contraceptives
- Describe the mechanisms of action, side effects of these contraceptive methods contraindications
- Describe the specific indications of the various methods

Classification

I. Hormonal Contraceptives

- Parenteral
  - Medroxyprogesterone acetate (Depot provera, sayannapress)
  - Norethisterone(Noristerat)
- Oral
  - Combined oral contraceptives
  - Progestogen only pills (mini pills)
  - Emergency pill
  - Patches
- Intrauterine devices
  - Loop
    - Hormonal loop
  - Implants
    - Jadelle
    - Implanon

II. Non-hormonal Contraceptives

- Barrier methods
- Males condoms
- Female condoms
- Cervical caps
- Calendar/safe days methods
- Breastfeeding
- Loop-Copper T
- Withdrawal methods
- Jumping methods
- Abstinence’

❑ Outline

- For each method/type of contraceptive, we will consider the following;

- Mechanism of action
- Dose
- Advantages
- Disadvantages/side effects
- Contraindications

I. Hormonal Contraceptive

a.Parenteral preparations
Examples: Medroxyprogesterone acetate & Norethisterone
MOA:

θModify the endometrium making it less favourable for implantation
θThicken cervical mucus thereby creating a barrier to the passage of sperm
θInhibit release of Luteinizing Hormone (LH) therefore suppresses ovulation
Dose
θMedroxy-150mg IM or 100mg SC/3months; Nor-200mg IM/2months
Advantages

θLong acting
θ>99% effective
θGood adherence
θEfficacy not extensively reduced by ARVs, rifampicin & other ABXs

❑ Disadvantages

θDelayed return to fertility (up to 18mo with Medroxy, up to 12 months with

θIrregular menstrual cycle

θHeavy/prolonged bleeding

θReduction in bone mineral density

Oral contraceptives

i. Combined oral contraceptives (COCs)

Examples

Ethinylestradiol0.03mg/levonorgestrel0.15mg (microgynon, safe plan, oralconF)

MOA

Oestrogencomponent

⎪ Inhibition of follicle development and suppression of ovulation by inhibition of Follicle Stimulating Hormone (FSH) release

⎪ Inhibits transport of ovum along fallopian tube

Progestogen

⎪ Modify the endometrium making it less favourable for implantation

⎪ Thicken cervical mucus thereby creating a barrier to the passage of sperm

⎪ Inhibit release of Luteinizing Hormone (LH) therefore suppresses ovulation

Dose

⎪ 1 tablet every day around same time. Do not delay > 7hrs otherwise use additional method for 7days. If you miss a tablet, take 2 the next day (note: this to merely maintain the cycle)

Advantages of COCs

θReadily available
θCheaper
θ>99% effective if taken consistently

Disadvantages of COCs

θOestrogen component
✔ Increased risk of CVS disease-thromboembolism, MI, stroke, carbohydrate intolerance, cholestaticjaundice, benign hepatic adenoma
θProgestogen component
✔ Hirsutism, reduced libido, vaginal dryness, breast discomfort
θBoth components
✔ Weight gain-due to fluid retention/ anabolic effect, hypertension, skin changes-acne, increased pigmentation, nausea, vomiting, menstrual irregularities, myocardial infarction, post pill amenorrhoea, mood changes-depression, irritability

Contraindicated

θHypertension, migrane headaches, over weight & obese individuals

❑ Progestogen only pills (mini pills)

❖ **Examples**

➤ Norethisterone,

➤ levonorgestrel

MOA-as above

Dose

θ1 tablet once a day around same time.

θDo not delay > 3hrs otherwise use additional method for 7days

θIf you miss a tablet, take 2 the next day (note: this to merely maintain the cycle)

Advantages

θSame as COCs

θNo weight gain

θCan be used in over weight

θLess risk of thromboembolism

❖ Disadvantages of mini pills

θHirsutism, reduced libido, vaginal dryness, breast discomfort
iii. Emergency pill (levornogestrel)
MOA-as above

❖ **Dose**
θ1.5mg Po stat within 72hrs of unprotected coitus, OR
θ0.75mg Po 12 hourly X 2 doses within 72hrs of unprotected coitus
❖ **Advantages**
θ>98% effective if used within 2hrs after coitus & >90% effective if used within 72hrs in non overweight individuals
Disadvantages
θAs mini pills
θMenstrual irregularities

❑ Implants

θ drug delivery systems implanted under the skin, from which the steroid is released slowly over a period of 1–5 years

- ✔ consist of either
- ✔ Biodegradable polymeric matrices—do not need to be removed on expiry
- ✔ Non-biodegradable rubber membranes—have to be removed on expiry

❖ **Examples**

- ➤ Levonorgestrel (NORPLANT) 36 mg X 6 capsules (total 216 mg)
- ➤ Levonorgestrel (Jadelle) 75mg X2 implants-5 years
- ➤ Etonogestrel (Implanon) 68mg -5years

❖ **MOA-as** under progestogens

❖ Advantages

- ✔ Long term
- ✔ >99% effective
- ✔ Improved adherence

❖ Disadvantages of implants

- ✔ Spotting
- ✔ Irregular or prolonged menstrual bleeding
- ✔ Oligomenorrhoea or amenorrhoea
- ✔ Dizziness
- ✔ Weight gain
- ✔ Breast pain
- ✔ Nausea
- ✔ cervicitis

Loop

- A progesterone impregnated intrauterine insert (PROGESTASERT)
- It contains 52 mg of levonorgestrel which primarily acts locally on endometrium
- The device remains effective for 5 years, but efficacy is rated lower.

THE END.....