INFERTILITY

- Many couples worldwide, including in India, face infertility, meaning they cannot have children despite unprotected sexual activity. Several factors can contribute to this, including physical congenital issues, diseases, drugs, immunological factors, or even psychological reasons.
- In India, it's common to place blame on the female partner for the couple's childlessness, but more frequently, the issue lies with the male partner.

Infertility in Males:

- A fertile man typically releases 2.5 to 5 ml of semen per ejaculation, containing over 200-300 million mostly motile sperm with proper fructose content and fluidity, deposited high in the vagina.
- Infertility can result from any defects in sperm count, sperm structure, sperm motility, or seminal fluid.
- Insufficient sperm count is referred to as oligospermia, and the near absence of sperm is known as azoospermia.
- Low sperm motility is termed asthenozoospermia, while defective sperm structure is called teratozoospermia.

Various causes of infertility in males include:

- Failure of the testes to descend into the scrotum, known as cryptorchidism.
- Absence or blockage of vasa deferentia.
- Elevated scrotal temperature caused by conditions like varicocele (varicose veins), hydrocele, filariasis, tight or thermal undergarments, or working in a hot environment can lead to low sperm count (oligospermia) or depressed spermatogenesis.
- Infections such as mumps after puberty (orchitis or inflammation of testes), bronchiectasis (chronic dilation of bronchioles), and infections of seminal vesicles or prostate can result in oligospermia. Infections from Chlamydia trachomatis and T.mycoplasma (= Ureoplasma) can also cause oligospermia.
- Alcoholism inhibits spermatogenesis.
- Conditions like Klinefelter's syndrome or gonadotropin deficiency.
- Cytotoxic drugs, radiation, antidepressants, and anticonvulsant drugs can suppress spermatogenesis.
- Male infertility can be caused by low fructose content, high prostaglandin content, high viscosity, and low volume of ejaculate.

Infertility in Females:

A fertile woman regularly releases an egg during each menstrual cycle, and her reproductive tract is conducive to the smooth passage of sperm and the implantation of a fertilized egg.

The various causes of infertility in females are as follows:

- Anovulation (failure to ovulate) and oligoovulation (insufficient ovulation) can result from the inadequate functioning of the hypothalamo-pituitary complex or, secondarily, from thyroid and adrenal dysfunction.
- Inadequate growth and function of the corpus luteum, leading to reduced progesterone secretion and deficient changes in the endometrium during the secretory phase, is known as luteal phase defect, which hinders implantation.
- Hyperprolactinemia can cause the ovum to remain trapped inside the follicle without being released.
- Fallopian tubes may fail to pick up the ovum, have impaired motility, lose cilia, or have a blocked lumen, with defects possibly caused by infection or endometriosis.
- Noncanalization of the uterus.
- Defective uterine endometrium due to reduced or excessive secretory activity.
- Congenital malformation of the uterus.
- Uterine fibroids.
- Cervical defects, such as congenital elongation, occlusion of the cervix by a polyp, cervicitis, scanty or excessive cervical mucus, and the presence of antisperm antibodies.
- Defective vaginal growth.

- Infertility is a problem for 15-30% of couples, with male infertility possibly due to insufficient sperm numbers and/or poor motility. Normally, ejaculation has a volume of 3 to 4 ml with approximately 200 to 300 million sperms, of which, for normal fertility, at least 60 percent must have a normal shape and size, and at least 40 percent must show vigorous motility.