

Male Reproductive Functions

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Question:

Write short notes on the following

1. Spermatogenesis
2. Testosterone
3. Semen
4. Male orgasm
5. Male infertility

-Spermatogenesis

Spermatogenesis is the process by which haploid spermatozoa develop from germ cells in the seminiferous tubules of the testis. This process starts with the mitotic division of the stem cells located close to the basement membrane of the tubules. These cells are called spermatogonial cells. Spermatozoa are the mature male gametes in many sexually reproducing organisms. Thus, spermatogenesis is the male version of gametogenesis of which the female equivalent is oogenesis. Spermatogenesis is highly dependent upon optimal conditions for the process to occur correctly, and is essential for sexual reproduction.

It starts at puberty and usually continues uninterrupted until death, although a slight decrease can be discerned in the quantity of produced sperm with increase in age

-Testosterone

Testosterone is the primary male sex hormone and anabolic steroid. In male humans, testosterone plays a key role in the development of male reproductive tissues such as testes and prostate, as well promoting secondary sexual characteristics such as increased muscle and bone mass, and the growth of body hair.

In addition, testosterone is involved in health and well-being, and the prevention of osteoporosis. Insufficient levels of testosterone in men may lead to abnormalities including frailty and bone loss.

In humans and most other vertebrates, testosterone is secreted primarily by the testicles of males and, to a lesser extent, the ovaries of females. On average, in adult males, levels of testosterone are about 7 to 8 times as great as in adult females. In

addition to its role as a natural hormone, testosterone is used as a medication in the treatment of low testosterone levels in men, transgender hormone therapy for transgender men and breast cancer in women.

-Semen

Semen, also known as **seminal fluid**, is an organic fluid that contains spermatozoa. It is secreted by the gonads (sexual glands) and other sexual organs of male or hermaphroditic animals and can fertilize the female ovum.

Semen is produced and originates from the seminal vesicle, which is located in the pelvis. The process that results in the discharge of semen is called *ejaculation*.

Semen is also a form of genetic material. In animals, semen has been collected for cryoconservation. Semen can transmit many sexual diseases and pathogens.

Swallowing semen carries no additional risk other than those inherent in fellatio

-Male Orgasm

The male orgasm is a complex experience. The major function of the male orgasm is to ejaculate sperm, although not all men will ejaculate during an orgasm. Beyond delivering pleasure, the role of the female orgasm is less clear, although it may help move the sperm closer toward the ovum (egg). The male orgasm is a complex system involving multiple hormones, organs, and nerve pathways. The hormone testosterone, produced in the testicles, plays a central role by enhancing the sexual desire (libido) that leads to arousal, erection, and ultimately orgasm. By contrast, low testosterone not only decreases a man's energy and mood, it makes him less responsive to sexual stimuli, both physical and mental. The hormone testosterone, produced in the testicles, plays a central role by enhancing the sexual desire (libido) that leads to arousal, erection, and ultimately orgasm. By contrast, low testosterone not only decreases a man's energy and mood, it makes him less responsive to sexual stimuli, both physical and mental.

-Male Infertility

Male infertility refers to a male's inability to cause pregnancy in a fertile female. In humans it accounts for 40–50% of infertility. It affects approximately 7% of all male. Male infertility is commonly due to deficiencies in the semen, and semen quality is used as a surrogate measure of male fecundity. Antisperm antibodies have been considered as infertility cause in around 10-30% of infertile couples. Sexual habits, frequency and timing of intercourse, use of lubricants and each partner's previous fertility experiences are important. Loss of libido and headaches or visual

disturbances may indicate a pituitary tumor.

Treatments vary according to the underlying disease and the degree of the impairment of the male's fertility. Further, in an infertility situation, the fertility of the female needs to be considered.

Pre-testicular conditions can often be addressed by medical means or interventions.

Post-testicular factors decrease male fertility due to conditions that affect the male genital system after testicular sperm production and include defects of the genital tract as well as problems in ejaculation example;

1. Vas deferens obstruction
2. Retrograde ejaculation
3. Ejaculatory duct obstruction
4. Impotence