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Assignment Title: Male reproductive functions

Course Title: Renal Physiology, Body fluid & Temperature Regulation and Autonomic Nervous System

Course Code: PHS 212

Question

Write short notes on the following:

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

Spermatogenesis

Spermatogenesis is a tightly regulated process where spermatozoa are made in the testis. It also where stem cells develop into mature spermatozoa. There are three phases: Spermatocytogenesis (Mitosis), Meiosis, and Spermiogenesis. The process involves interactions between somatic and germ cells to attain the two primary functions of the testis: spermatogenesis and production of androgens. Spermatogenesis is regulated by hormones and growth factors the start of spermatogenesis is at puberty, and once it has started sperm are continuously produced throughout adult life.

Testosterone.

Testosterone is the hormone responsible for the development of male sexual characteristics. Females also produce testosterone but in smaller amounts. Testosterone is a type of androgen produced primarily by the testicles in cells called the Leydig cells. In men, testosterone regulate a number of functions like sperm production, sex drive, bone mass, fat distribution, muscle size and strength, red blood cell production. Testosterone assists the development of mature sperm and inadequate amounts of testosterone causes infertility in men.

Despite being a male sex hormone, testosterone also contributes to sex drive, bone density, and muscle strength in women. However, an excess of testosterone can also cause women to experience male pattern baldness and infertility. The brain and pituitary gland control testosterone levels.

Semen

Semen is also called seminal fluid. It is a fluid that is released from the male reproductive tract and contains sperm cells which are capable of fertilizing the female eggs. Semen also contains

other fluids besides spermatozoa: proteolytic and other enzymes as well as fructose are elements of seminal fluid that promote the survival of spermatozoa, and provide a medium through which they can move or swim. Semen is produced in the seminal vesicle, which is located in the pelvis. The process that results in the discharge of semen is known as ejaculation.

Male orgasm

This is the sudden discharge of accumulated sexual excitement during the sexual response cycle, resulting in rhythmic muscular contractions in the pelvic region characterized by sexual pleasure. Orgasms are controlled by the involuntary or autonomic nervous system. They are often associated with other involuntary actions, including muscular spasms in multiple areas of the body, a general euphoric sensation and, frequently, body movements and vocalizations. The period after orgasm (known as the refractory period) is often a relaxing experience, attributed to the release of the neurohormones oxytocin and prolactin as well as endorphins.

Orgasms usually result from physical sexual stimulation of the penis in males (typically accompanying ejaculation). Sexual stimulation can be by self-practice (masturbation) or with a sex partner (penetrative sex, non-penetrative sex, or other sexual activity).

Male infertility

Male infertility is the inability of a male to cause pregnancy in a fertile female. It is commonly due to abnormal sperm function or blockages that prevent the delivery of sperm. Illnesses, injuries, chronic health problems, lifestyle choices and other factors can play a role in causing male infertility.