NAME: BELLO ADEBANKE

MATRIC NUMBER: 19/MHS02/126

DEPARTMENT: NURSING

PHYSIOLOGY ASSIGNMENT

SPERMATOGENESIS

Spermatogenesis Is the Process of Formation of Spermatocytes from Spermatogonia. Spermatogenesis is initiated at puberty, continues throughout the remainder of a man's life, and takes place in the walls of the seminiferous tubules.

The walls of the tubules are composed of two compartments separated by tight junctions between the Sertoli cells:

• Thee basal layer, which consists of the Leydig cells and the spermatogonia

• The adluminal layer, which is made up of Sertoli cells and spermatocytes

The initial step in the process is transformation of type A spermatogonia, which are epithelioid-like cells, to type B spermatogonia, a process involving four divisions. The type B cells embed in the Sertoli cells. In association with the Sertoli cells, the type B cells are transformed to primary spermatocytes and then, in a step involving the first meiotic division, to secondary spermatocytes. The secondary spermatocytes undergo a second meiotic division, yielding spermatids, each of which has 23 unpaired chromosomes. The steps described are stimulated by testosterone and follicle stimulating hormone (FSH).

MALE INFERTILITY

Male infertility refers to a male's inability to cause pregnancy in a fertile female. important causes of male infertility include the following:

• Androgen dysfunction with normal sperm cell production, caused by hypothalamic-pituitary defects, Leydig cell defects, or androgen resistance

• Isolated dysfunction of sperm cell production with normal androgen levels, resulting from infection or trauma, congenital deformation of passages, or formation of nonmotile or otherwise abnormal sperm

• Combined androgen and sperm cell production defects resulting from

(1) developmental defects, such as Klinefelter's syndrome or abnormal testicular descent,

(2) acquired testicular defects, such as infections, autoimmune reactions, or systemic diseases such as chronic liver and kidney diseases

Unknown causes: In 50 percent of infertile males, no cause can be identified