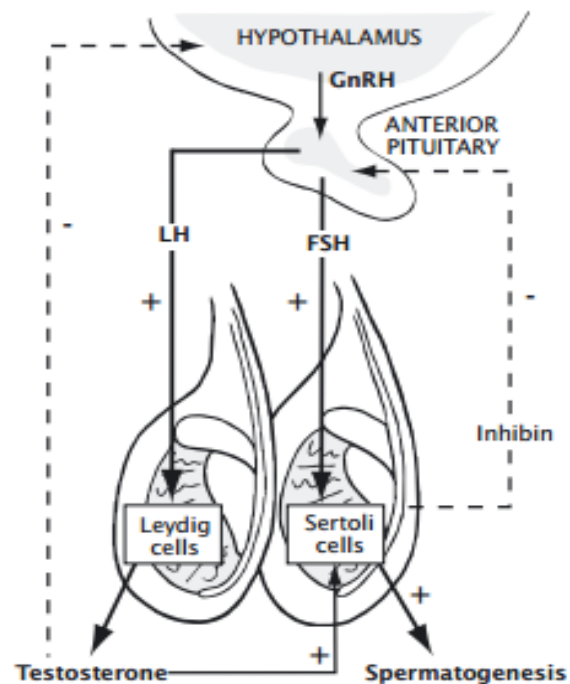


Hormonal control of male Reproductive system

The principle of reproduction in the male shows a pattern similar to that in the female. Figure 4 is an illustration of the control of the male reproductive function.

Figure 4 Interrelationships in the control of male reproductive function.



GnRH from the hypothalamus stimulates the release of FSH and LH (in the male formerly called ICSH = interstitial cell stimulating hormone).

FSH acts directly on the seminiferous tubules of the testis (germ cells and Sertoli cells). Here spermatogenesis is stimulated by FSH.

Sertoli cells produce inhibin, which has a negative feedback on FSH secretion by the pituitary gland.

testosterone is bound within the tubule lumen by the secretory product of the Sertoli cells, androgen-binding protein (ABP). The role of ABP therefore appears to be to maintain high androgen concentrations in the lumina of the seminiferous tubule and epididymis.

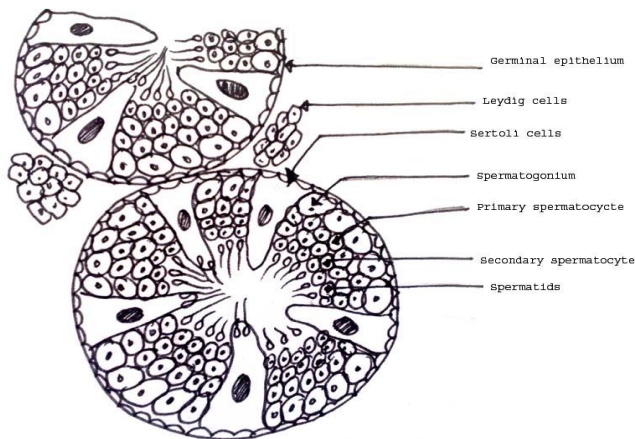
The main target of FSH is the Sertoli cell, Under the influence of FSH, Sertoli cells secrete ABP and aromatize testosterone into oestrogens , while FSH is also responsible for regulate or support spermatogenesis.

Most aspects of spermatogenesis require support by FSH and /or testosterone. However, it appears from LH stimulates the production of testosterone by the Leydig cells.

Testosterone influences the Sertoli cells and is necessary for successful spermatogenesis. Furthermore testosterone induces morphological changes and typical male behaviour.

Function of Testosterone:

- 1- Testosterone is required for the production of sperm and their subsequent maturation in the epididymis,
- 2- for the function of the accessory sex glands
- 3- for the development of masculine secondary sexual characteristics.
- 4- Testosterone has a negative feedback on the LH secretion by suppressing the pulsatile GnRH release from the hypothalamus.



Leydig cells are the male equivalent of the follicular theca interna cells.

Sertoli cells are the male equivalent of the follicular granulosa cells.

Figure 10-3. Interrelationships Among Hormones Produced by Sertoli Cells, Leydig Cells, the Hypothalamus and the Anterior Lobe of Pituitary

