GONADAL HORMONE

Introduction:- The male generative organs consist of testis, epididymis, vas diferens, vesiculae, semimales, prostate gland, bulbo - uretral gland and penis where as female reprodutive organs includes overies, follipian tubes, uterus, vagina, and breast of these testis and overis are called primary sex organs or the gonads. remaining structure are collectivly know as secondary sex organs.

Testis & overies passes two functional compound (i) Formation of gamete and (ii) Secretion of hormones. So it will be better to describe hormones in seperate way as male gonadal hormones and female gonadal hormones.

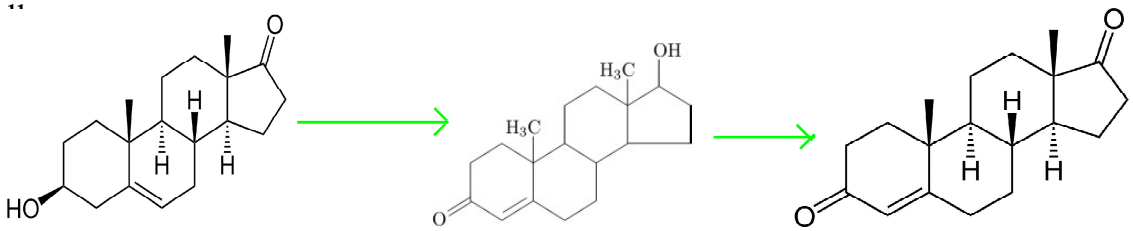
Male Gonadal Hormones :-

Androgens or Testoterone

Source:- Testis produces androgens (male sex hormone) responsible for the maintenance of testicular structure and accessary sex struture and secondary sex charaters. more particularly the instestial cells are the ste where androgens are synthesized.

Nature of Androgens:- There are three types of androgens which are steriods in nature.
i) Dehydro epiandrosterione
ii) Andro Sterione
iii) Testosterone

of these three the testosterone is mare potent hormones. Chemical structure are as fc ..



Dehydroepiandrosterrone Androsteredione testosterone

Biosythesis of Androgens:- The interstitial cells are the largest cell that are stimulated by gonadotrophines for an increased secration of androgens froms pregenenolone to DHEA and them to androsterione. This androsteriome is converted into testosterone.

Mode of Action:-

Androgen promotes protein synthesis in male accessary gland by causing increased RNA and RNA polymerase in the nucleus and increased amino acyl transferase at the ribosomal level. Androgens increases the activity of glycolytic enzymes phosphofructokinase & hexokinase.

Functions of Androgens (Mainly Testoterone) :-

1) Growth of accessary male sex organ :- Andriogens cause grouth of accessary sex-organs, such as seminal vesicles, prostate gland, epididymis, vas deferens, penis etc and maintenance of the morphological and fuctional activity of these seminal vesicles and fructose begains to be secreated from them.

2) Development of male secondary sex characters:-

These includes :- i) Distribution of hair

ii) Development of typical muscular vioce.

iii) Activity of emotional makeup of the male.

3) Metabolic effect:- Testosterone can be regarded as a specialised growth hormone acting mainly on accessary organ of reproduction.

4) Effect on RBC :- Total number of RBC which comes back to control level on androgen treatment.

5) Synthetc role:- Androgens have a direct stimulating affect on DNA and RNA polymerases the synthsis of mRNA and the incorporation of amino acids into protens.

6) Protein anabolic action:- Testosterone is a protein anabolic hormone. It causes increased passage of amino acids inside the cells and possible nitrogen balance.

7) Muscular development:- Selective stimulation of certain muscles by androgens indicates that hormones has mesotropic effects.

8)Effect on growth and bone:- Due to the protein anabolic nature of testosterone it cause in bonematrix & thses increases deposition of calcium salts. It also leads to closer of epiphysis of long bones causing normal growth.

The End