

Lecture No.9

Pineal gland is also called as epiphysis cerebri

Location

- Small cone-shaped gland in the brain.
- Its base is attached to the roof of the third ventricle.
- It contains the highest content of serotonin and the enzyme hydroxyl-indol-o-methyl-transferase (N-methyl transferase) which converts serotonin to melatonin (N-acetyl 5-methoxy tryptamine).

Biological functions

- Lightening of skin colour in mammals
- Inhibits gonadal activity in long day breeders
 - Horse
- Stimulates onset of breeding season in short day breeders
 - Sheep
- Long daily periods of elevated melatonin secretion
 - induce ovarian cycles in ewes
- Continuous administration of melatonin induces cyclicity in acyclic ewes
 - Inhibit ovarian cycles in mares

THYMUS GLAND

- It is large and active in the newborn, reaches full activity at puberty and thereafter declines in activity slowly.
- The thymus is a lymphoid organ found on both sides of the trachea.
- During its early development, it resembles an endocrine gland and is essential for the normal development and maintenance of immunologic competence.

- Thymic hormones are the, thymic humoral factor (THF), thymosin, homeostatic thymic hormone (HTH) and lymphocyte-stimulating hormone (LSH).
- Thymosin and THF stimulate cell-mediated immunity.
- HTH and LSH increase the ratio of lymphocytes to polymorphonuclear leukocytes (PMN).
- A thymic steroid substance thymosterin inhibits lymphocytopoiesis and tumor growth