**Dr. Iman**

**Male reproductive system**

Consist of:

1- Paired testes 2- small epididymides 3- long coiled ductuli deferents opening into the urodeum of the cloaca via the ejaculatory ducts. 4- certain erectile organs within the cloaca 5- lymph folds 6- vascular bodies 7-Phllus which together with the ejaculatory ducts form the copulatory organ of the fowl.

**Tests:**

* Are paired bean shaped structures.
* Lying dorsally with the anterior end of the abdominal cavity.
* Joined by a short connective tissue attachment,the mesorchium.
* Testicular size and weight varies considerably according to age and breed.

**Epididymis:**

* Is poorly developed structure.
* A small anterior portion of the epididymis which is not attached to the testis, extends dorsally and is enclosed in the capsule of the adrenal gland. Epididymal tubules within this extension are frequently vasa aberrantia paradidymal tubules.

**Ductus deferens:**

* Leaves the posterior end of epididymis and passes posteriorly; initially along the ventral aspect of the kidney and finally along the dorsal surface of the abdominal cavity, to enter the urodeal portion of the cloaca.
* The duct is strongly convoluted throughout almost the whole of its length.
* Each ductus deferens opens via an erectile ejaculatory duct which protrudes into the cavity of the cloaca.

**Testis**

* Is contained within thin capsule.
* The capsule does not give off septa to divide the testis in to separate lobules.
* There are two major tissues in the testis:

A – Seminiferous epithelium.

B – Interstitial cells of leydig.

A - seminiferous epithelium:

-Linedsthe walls of the highly convoluted seminiferous tubules or tubuli contorti.

-Seminiferous epithelium do not end blindly close to periphery, but form anastomosing network at all levels.

-Lies on a basement membrane.

-From periphery towards the lumen are found spermatogonia, primary spermatocytes, secondary spermatocytes, spermatids and maturing sperm.

-Sertoli cells are also occur within the seminiferous tubules.

**Sertoli cells:**

* Possessing supporting and nutritive function.
* Cytoplasm isn’t easily recognized.
* Cytoplasm form an extensive ramification.
* Elliptical in shape with large basal nucleus.
* Sertoli cell begins to elongated towards tubular lumen.
* Groups of spermatids become embedded in it.
* Sertoli cell nucleus is large and palely staining with a well- developed nucleolus.

**Mature spermatozoa:**

* Is elongated flagellate, divided in to 3 parts:

Head, middle, piece and the Tial.

**Interstitial cells (leydic cells):**

* Found between seminiferous tubules.
* Consist of loose connective tissue and elongated fibroblasts and blood vessels form the interstial tissue.
* Leydic cells are scattered singly and in small groups.
* Leydic cells are may be polyhedral or irregular, flat or even elongated.
* Nucleus is rather large, rounded and contains a fine chromatin network and one or two nucleoli.

**Efferent ducts :**

* Sperms leave the testis via tubuli recti and the rete testis (tubuli recti are lined by sertoli cells).
* Rete testis form a network of thin- walled irregular channels embedded in fibrous connective tissue (rete testis is lined by a cuboidal to squamous epithelium).

**Epididymis :**

* Lined with ciliated columnar epithelium and opens into the epididymal ductuli efferentes (vasa efferentia).
* Towards the tail of the epididymis it contines as the convoluted vas deferens or ductus deferens.

**Ductus deferens:**

-Is convoluted duct possessing a well- developed muscular wall.

-Enveloped by a dense layer of fibrous connective tissue.

-A thick layer of smooth muscle.

-The terminal portion of the ductus deferens, just prior to the entry of the duct into the cloaca, is formed a dilated sac- like structure.

-The epithelium lining is composed of columnar cells very similar in appearance to those of the ductus epididymidis.

-Epithelial cells particular the proximal and distal parts, exhibit intense holocrine secretory activity.

**Copulatry organs:**

Formed a complex system of structures within the cloaca.

1- Each ductus deferens connected with a conical, erectile ejaculatory duct which protrudes into the urodeum of the cloaca is close proximaly to the ureteral opening.

2- Ejaculatory ductus can be erected prior to copulation by the engorgement with blood of the arterioles, sub epithelial sinuses and venules which occur in the deep fibrous connective tissue of the submucosa.

3- Epithelium Lining of the ejaculatory ductus is of a pseudo stratified columnar type.

4- A ring of erectile vascular bodies encircling the posterior aspect of the urodeum.

5- White body which is flanked by round folds are the lymph folds are found in proctodeum (white body and the round folds have been called phallas).