

THE MANAGEMENT OF THE TESTICULAR TUMOURS

ESSAY

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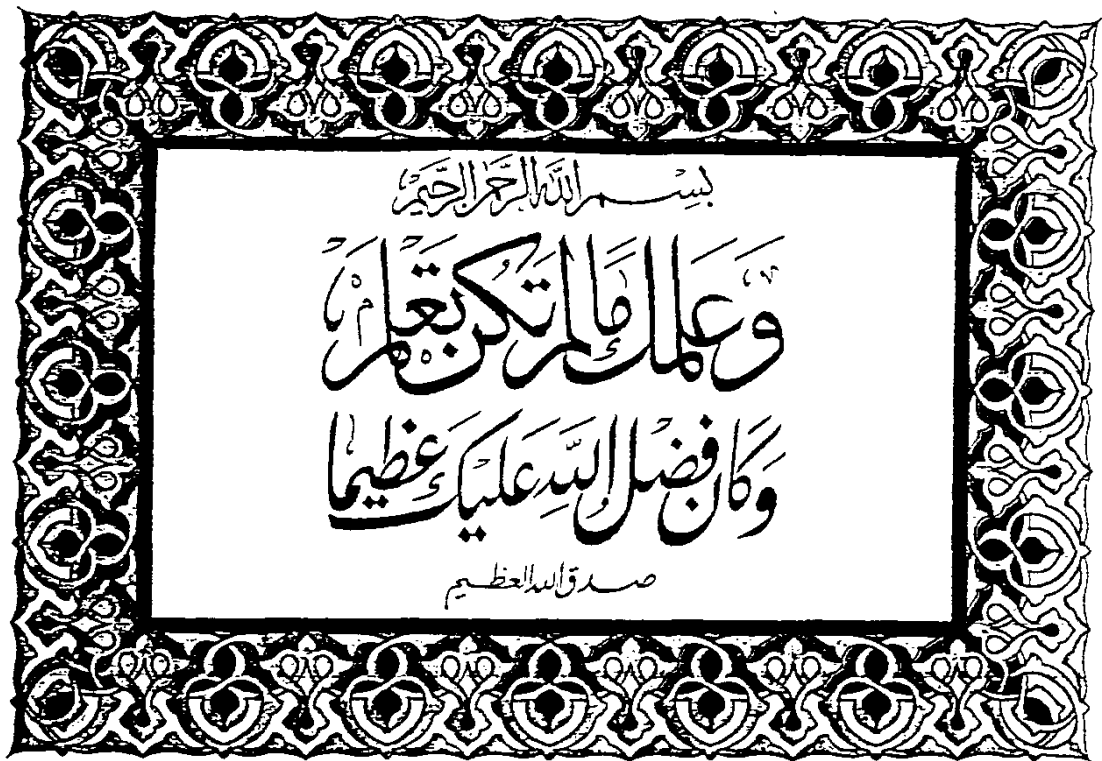
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INTRODUCTION

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Testicular tumours are one of the most important in the young age group; clinical examination, and further investigations are needed to diagnose such tumours, the results of the treatment of testicular tumour have improved significantly in the recent years as result of development of increasingly accurate methods of diagnosis and early detection.

AIM OF THE WORK :

This essay aims at evaluation of different methods of diagnosing, treatment and prognosis of the testicular tumours

Anatomy

EMBRYOLOGY OF THE TESTIS

The testis and epididymis considered to be one organ as they have close embryologic relationship.

The testis arises from the nephrogenic cord along the Mullerian duct, mesonephros and its duct. The cranial end of the mesonephric ducts gives vas deference and the epididymis. Caudally the mesonephric ducts gives seminal vesicals and ejaculatory ducts.

During the 6th to 8th week the primitive sex cords proliferate and become organized to form well defined testis cords which anastomosis freely with one another.

These testis cords remain solid until puberty, at puberty they acquire alumen and become seminiferous tubules.

The interstitial cells of leydig develop from the mesenchyme between the testis cords. The Mullerian ducts in male degenerate almost completely. (Ohono, 1978).

EARLY DEVELOPMENT AND DESCENT OF THE TESTIS

In the seventh week of intrauterine life the testis is still attached to the posterior abdominal wall by the urogenital mesentery. The caudal pole of the testis is continuous with a mesenchymatous band which runs down towards the pelvic brim. So that the testis extend from the urogenital ridge to reach the inguinal region.

As the testis descends. It raises the overlying coelomic epithelium to form the plica-inguinalis uinalis, this a band which is continuous through the future inguinal canal with the mesenchymes of the genital fold.

The whole column of mesenchyme extending form the lower pole of the testis to the genital fold constitutes the gubernaculum testis.

While the pelvis grows and the trunk of the fetus elongates the gubernaculum does not grow in porportion so that the testis being attached to the gubernaculum comes to lie in close proximity to inguinal region. This occurs till the third month.

Meanwhile the cremaster muscle differentiate in the gubernacular mesenchyme of the inguinal region. A diverticulum from coelomic cavity extends into the mesenchyme called the processus vaginalis (Davis, 1984). From sixth month the processus vaginalis

grow into mesenchyme of inguinal canal and scrotum, and at the same time the cremasteric muscle extends down wards to the scrotum. The testis is still at the abdominal end of inguinal canal at the beginning of the seventh month, but its usually passes through the inguinal canal and reaches the scrotum by the end of the eight month (Lawrence et al., 1989).

The precise role of the gubernaculum is still unknown, but it provides a route along which the processus vaginalis and cremastic muscles can develop without obstruction by the body wall, it is also dialtes and keep open the pathway for descent and tethering the testis, it causes it to descend by differential growth. Usually the gubernaculum, does not actively pull down the testis.

The lower portion of processus vaginalis persists as a tunica vaginalis of the testis but the upper pole usually become obliterated at about the time of birth. (Romans et al., 1978).

ANATOMY OF THE TESTES

The testes, the reproductive glands in male, are suspended in the scrotum by the spermatic cords, the left testis hanging somewhat lower than its fellow the average dimension of the testis are from 4-0 cm to 5 cm in length, 2-5 cm in breadth and 3 cm in anteroposterior. The weight of the testis varies from 10.5 to 14 gms. (Davis, 1982). Each testis is an ellipsoidal form, compressed laterally, and has an oblique position in the scrotum, the upper extremity is tilted forwards and a little laterally while the lower extremity backwards and a little medially.

The anterior border is convex and looks forward and downwards, the posterior border is nearly straight, look backwards and upwards and the spermatic cord is attached to it (Last, 1984).

The anterior border the medial and lateral surfaces and the extremities of the testis are convex, smooth and invested by the visceral layer of the tunica vaginalis. The posterior border receives only partial investment from hat membrane. The epidimys lies along the lateral part of posterior border (Davis, 1982).

The appendages of the testis and epididymis lie on the upper extremity of the testis there is a minute, oval, sessile body termed the appendix of the testis just beneath the head of the epidimys.

It is the remnant of the upper end of para mesonephric duct.

On the head of epididymis there is a small, stalked appendage which is named the appendix of the epididymis and usually considered to be a derivatives of mesonephros (Davis, 1982).

Coverings of The Testis

The testis is invested by three coats. The tunica vaginalis, tunica albuginea and tunica vasculosa.

1- Tunica vaginalis :

It is the lower part of the processus vaginalis of the peritoneum which descends to the testis from the abdomen into scrotum proceeding the foetus after the testis has reached the scrotum. The upper part processus vaginalis, viz from deep inguinal ring to within a short distance of the testis contracts and undergoes obliteration. The lower part remains as a closed sac, which invests the surface of the testis and is reflected on to the internal surface of scrotum. Hence it may be described as consisting of visceral and parietal layer (Romans, 1977).

The visceral layer of the tunica vaginalis covers the lateral, medial and anterior borders of the testis, but leaves most of the posterior border uncovered, a medial side of the posterior border it is reflected forward to be continuous with parietal layer. A lateral side of the posterior border it is reflected on to the medial aspect of the epididymis lining the sinus of the epididymis and then covers its lateral aspect as far as its posterior border where it is reflected forwards to become continuous with the parietal layer. The

continuity between the visceral and parietal layer is established at the upper pole the visceral layer cover the upper surface of the head of the epididymis before being reflected the parietal layer extends more than the visceral layer. It reaches below the testis and extends upwards for some distance in front and on the medial side of the spermatic cord. (Last, 1984).

The inner surface of the tunica vaginalis is smooth and covered with a layer of mesothelial cells. The potential space between visceral and parietal layers constitutes the cavity of the tunica vaginalis (Davis, 1984).

2- Tunica albuginea :

The tunica albuginea is a bluish-white dense membrane composed of interlacing bundles of white fibrous tissue that forms a covering for the testis. its covered with visceral layer of tunica vaginalis except at the head and the tail of the epididymis also along the posterior border its not covered by visceral layer and at this site along the posterior border the testicular vessels and nerves enter the gland. This coat also is applied to the tunica vasculosa and at the posterior border of the testis it is projected into the interior of the gland forming an incomplete vertical septum called mediastinum testis this mediastinum extends from the upper to near the lower end of the gland and is wider above than below. Numerous imperfect septa "septula testis" are given off and radiate towards the surface of the testis to be attached to the deep aspect of the tunica albuginea. These septa divide the testis

incompletely into number of cone-shaped lobules. The bases of these lobules are at the surface of the testis and their apices converge to the mediastinum. The mediastinum contains the vessels and ducts of the testis in their passage to and from the substance of the gland. (Last. 1982).

3- Tunica vasculosa

It is the vascular layer of the testis consisting of a plexus of blood vessels held together by delicate areolar tissue. it lines the tunica albuginea and cloths the septa and therefore forms an investment to all lobules of testis (Lawrence. 1989).