TESTICULAR TUMOURS

Essay Submitted For Partial Fulfilment

Of The Master Degree In Urology

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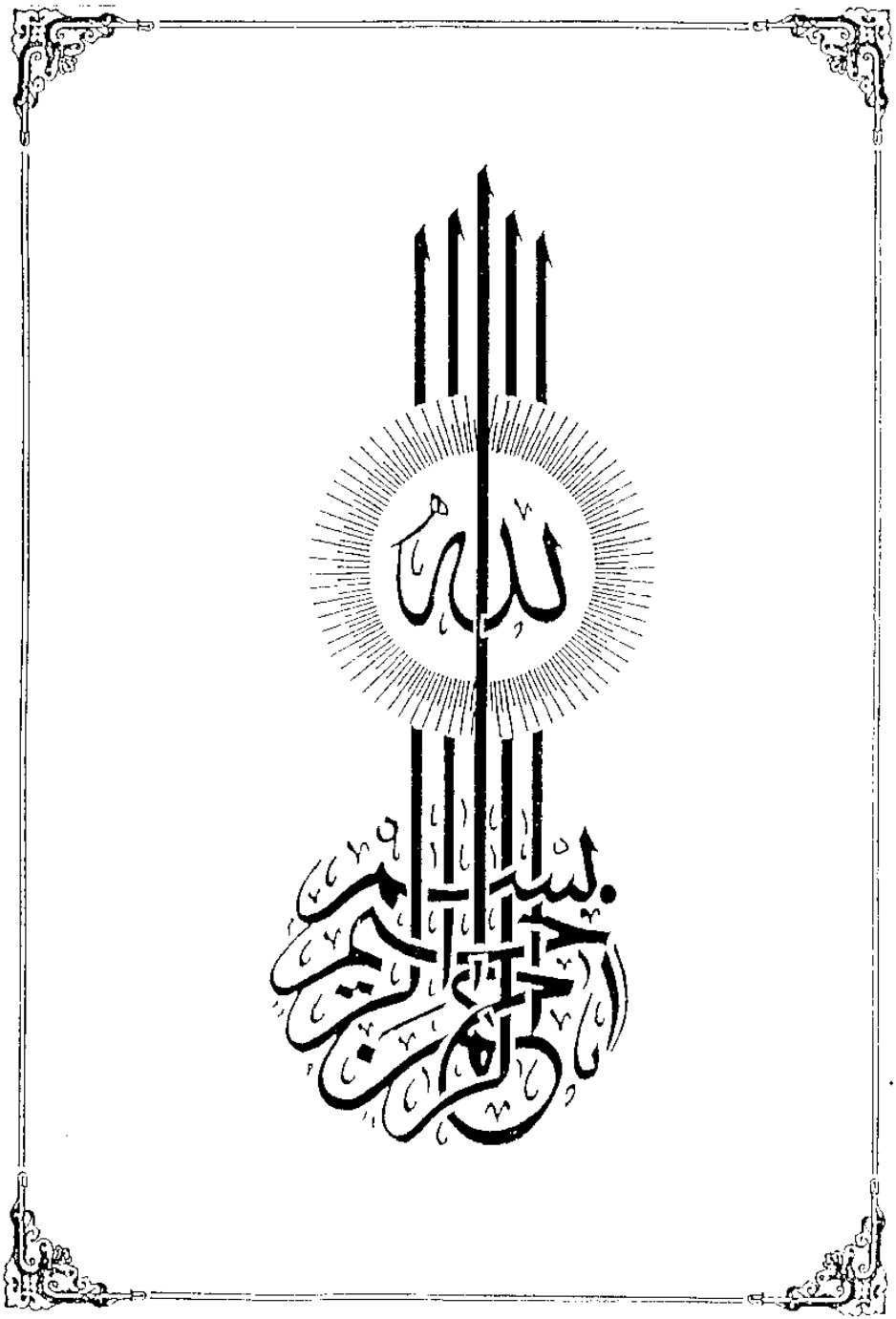
بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا إلا ما علمتنا

إنك أنت العليم الحكيم

صدق الله العظيم



A C K N O W L E D G E M E N T

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C O N T E N T S

1 ...

I N T R O D U C T I O N

dogma of "once a cancer cell, allways a cancer cell" (Pierce 1960, 1975 in Campbell's urology 4th edition vol. 2).

Thus the subject of testicular tumours is worthy of discussion from all aspects to reach the earleir diagnosis, earleir interference and in turn most satisfactory prognosis.

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2 ...

AIM OF WORK

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This work will be in the form of an essay by which this important subject can be clarified from various aspects.

Firstly, it is important to know the anatomy of the testicle and its coverings - including its development, microscopic anatomy, blood supply and lymph drainage.

This is important to recognize the normal picture of the testicle and in turn, the site of origin of the testicular tumours can be easily understood.

Also it is important to recognize the routes of metastasis which help in determining the stage of the tumour and in turn the best line of treatment and prognosis.

Secondly, the functions of the testicle must be well understood to recognize the normal and abnormal functions of the gland.

Lastly the body of the subject will be discussed as regards of:

a) AEtiology.

b) Classification and Pathology.

c) Epidemiology.

d) Diagnosis.

e) Treatment.

f) Prognosis.

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3 ...

A N A T O M Y O F T H E T E S T I C L E

ANATOMY OF THE TESTICLE

a- Embryological Development Of The Testicle

i- The formation of the gonads

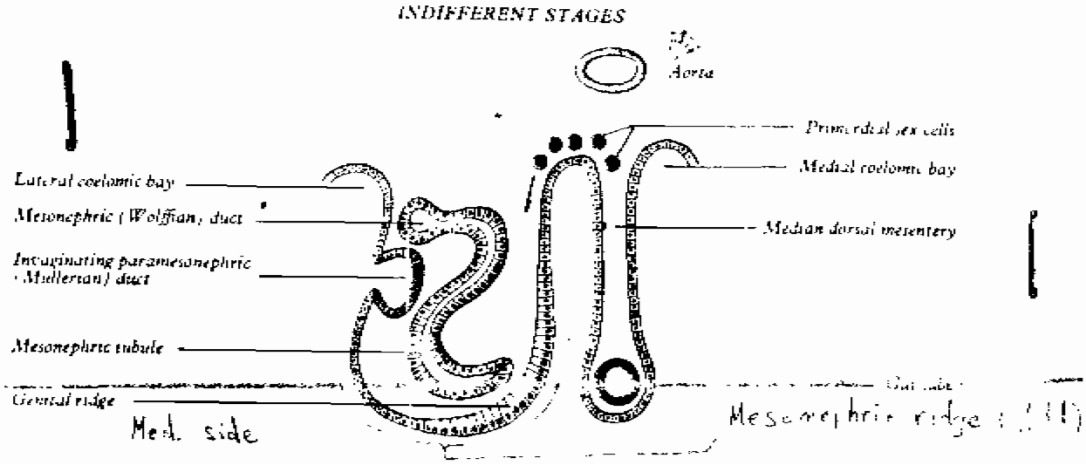


Fig. 1 Development of the testicle.

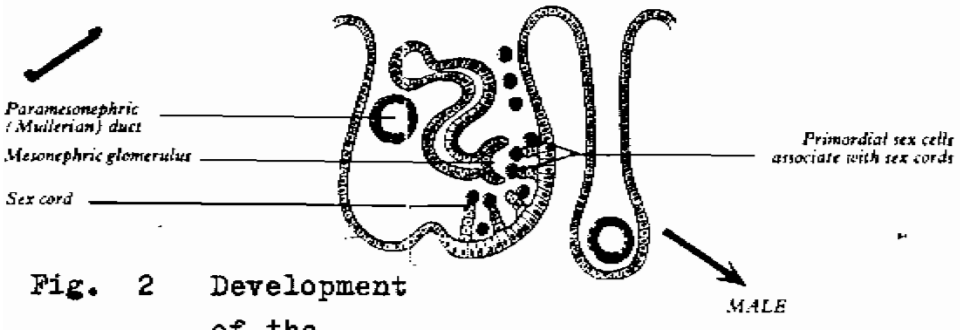
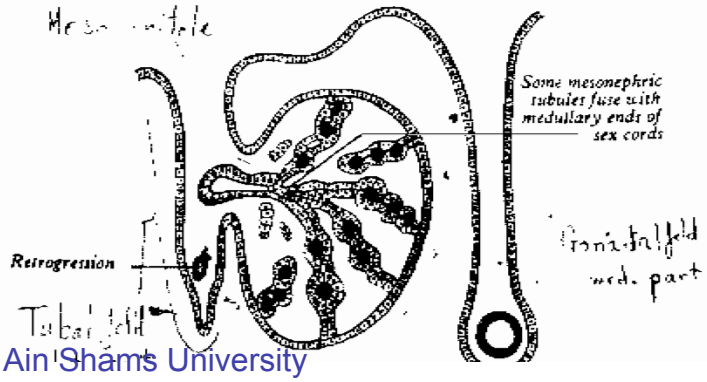


Fig. 2 Development of the testicle.



many - layered.

The thickening rapidly extends in a longitudinal direction until it covers nearly the whole of the medial surface of the ridge.

The thickened epithelium continues to proliferate, displacing the renal corpuscles of the mesonephros in a dorsolateral direction, and forming a projection into the coelomic cavity, the gonadal ridge.

Surface depressions form along the limits of the ridge which is thus connected to the mesonephros by an originally broad mesentery, the mesogenitale.

In this way the mesonephric ridge be comes subdivided into a lateral part containing the mesophric and paramesonephric ducts, which may be termed the tubal fold, and a medial part, termed the gonadal fold. The tubal fold contains the nephric tubules and glomeruli at its base.

Up to the seventh week the gonad possesses no differentiating feature. The proliferating epithelium now forms a number of cellular gonadal cords, separated by mesenchyme. These cords remain at the periphery of the primordium to form a cortex; more centerally a proliferation of the mesenchyme of the mesonephros constitutes a medulla.

In the male all the progenitors of the definitive gonocytes become incorporated in the cords. At this stage in the male,

an extension of the mesenchyme cuts off the gonadal cords from the surface and rapidly thickens to form the tunica albuginea.

The testis

The cellular cords lengthen partly by additions from the coelomic epithelium and encroach on the medulla, where they unite with the network derived from the mesenchyme which ultimately becomes the testicular rete.

The primordial germ cells are incorgorated in the cords, which later become enlarged and canalized to form the seminiferous tubules. (Fukuda and Hedinger 1975 in Gray's Anatomy).

The cells derived from the surface of the gonad form the supporting cells (of Sertoli).

The interstitial cells of the testis are derived from the mesenchyme and possibly also from coelomic epithelial cells which do not become incorporated into the tubules.

The cords of the testicular rete, which canalize later, become connected to the glomerular capsules in the cranial end of the persisting part of the mesonephros, and the glomerular tufts concerned become atrophied.

The rete cords thus become connected to the mesonephric duct by the five to twelve most cranial persisting tubules and these become exceedingly convoluted and form the lobules of the head of the epididymis.

The mesonephric duct, which was the primitive "ureter" of