IMPOTENCE

THESIS

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For The Master Degree of Urology

By

Osman Aly Wahby

M. B., B. Ch.

Supervisor

Prof. Dr. Mohamed Amin Taha
Professor of Urology
Ain Shams University

Departement of Urology
Faculty of Medicine
Ain Shams University

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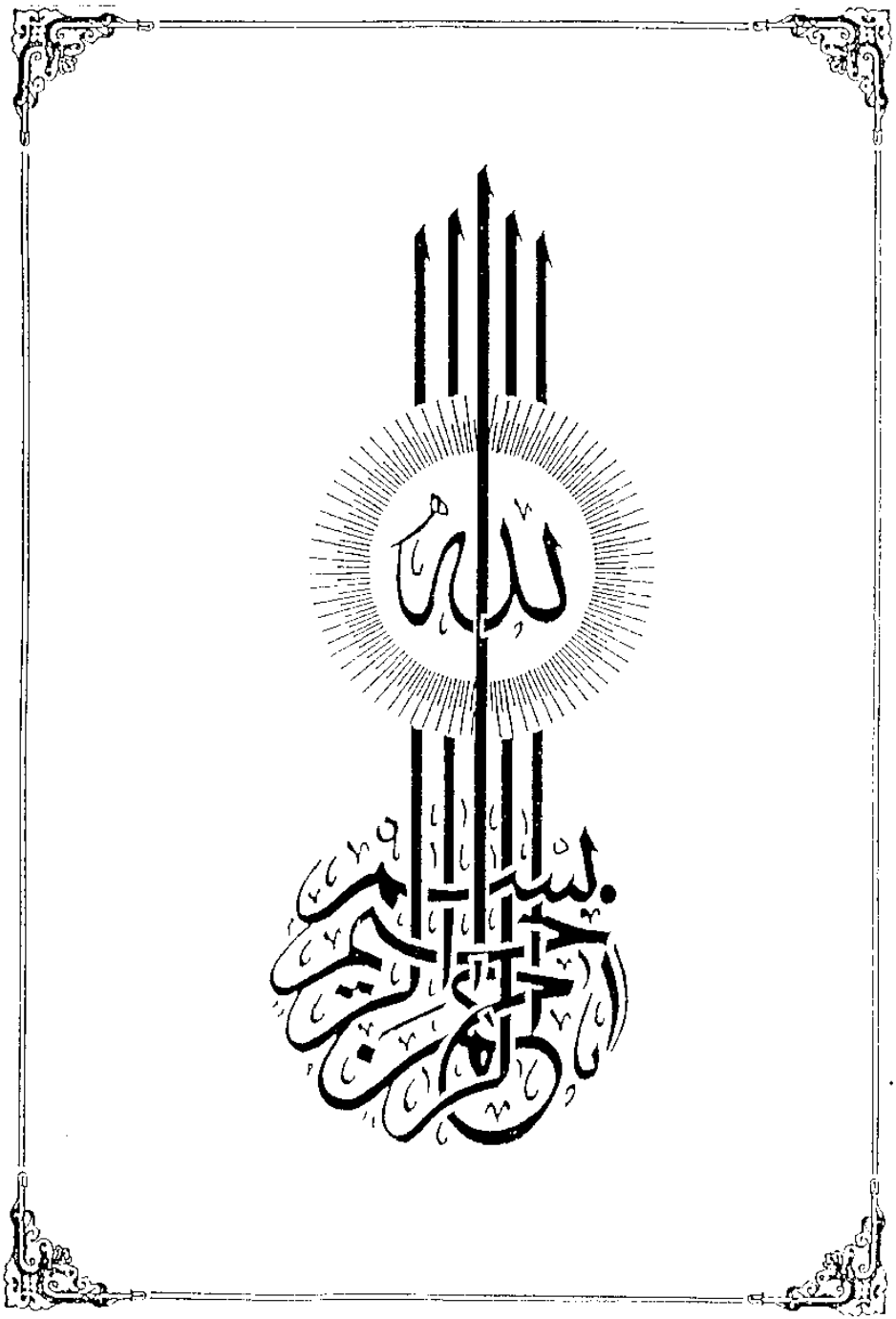
Acknowledgement



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OSMAN ALY KAHBY

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INTRODUCTION AND AIM OF THE WORK

Male impotence is a common complaint in sexual medicine. As organic causes of impotence became increasingly recognised in 1970 so did various forms of surgical treatment for this condition develop ; but the aviliability of new diagnostic procedures lagged behind untill recent years. The reasons for this slow development seem to be a reluctance - to -examine the penis and the dominance of the view that impotence is psychogenic in orgin.

The present work was undertaken to throw light upon the mechanisms by which the different causes precipitating impotence, also the great advance in its diagnostic procedures with their main goal to differentiate between psychogenic and organic causes , clearing the different opinions and experiences regarding the new devices which have been established for this purpose.

Also, we try to give a satisfactory idea about the different lines of treatment for male impotence including the non - surgical lines as the medical, hormonal,psychotherapy and intracavernous drug - induced erections , beside the surgical ones as penile revascularization with its different techniques to correct the decreased blood supply to the panis,

implantation of the different types of penile prostheses by various surgical tachniques to treat the uncurable neurogenic, vasculogenic , or local causes , and the correction of venous leakage from the corpora cavernosa. by different methods. Also the use of non-invasive device to produce and maintain an erection like state.

Suragical Anatomy of the Penis

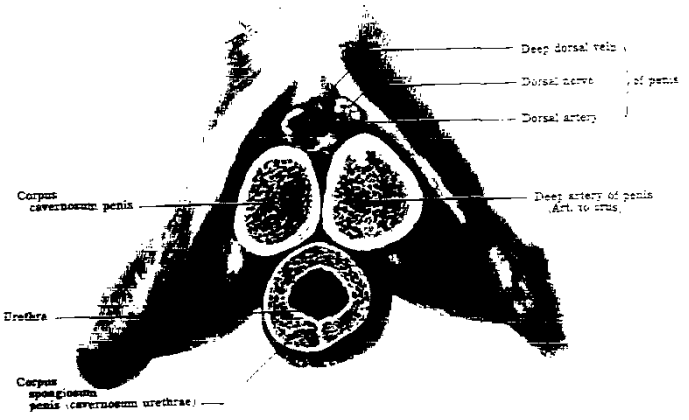

Fig.(1): Section across the root of the penis. Observe that the urethra is dilated within the bulb.
(After Anderson, 1978).

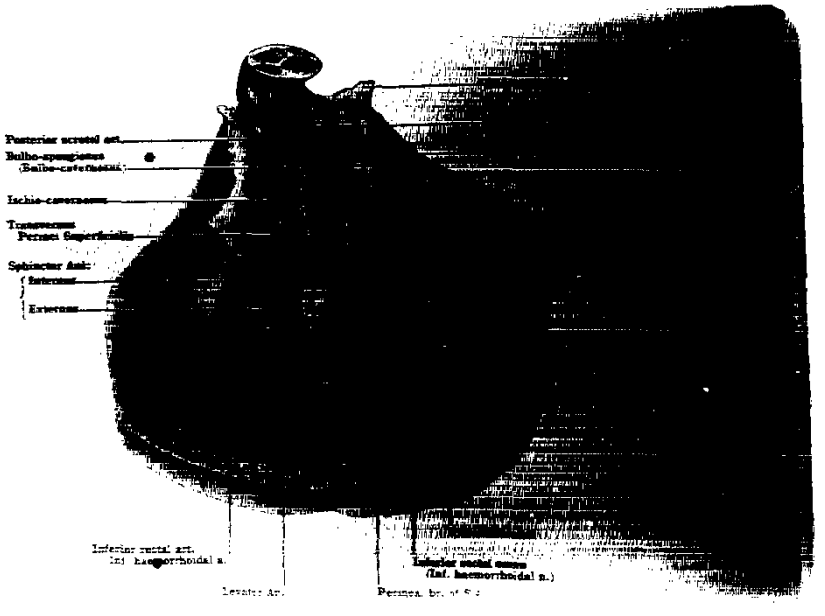

Fig.(2): Male perineum showing both ischiocavernosus and bulbospongiosus muscles.
(After Anderson, 1978).

SURGICAL ANATOMY OF THE PENIS

The penis is predominantly a sexual organ with an incidental urinary function. It consists of body and root.

The Root of the Penis: (Fig.1)

It lies in the superficial perineal pouch and comprises the three masses of the penis; which are the two crura and the bulb of the penis. These masses are firmly attached to and suspended from the urogenital diaphragm (Buck's fascia), the margins of the pubic arch, and the linea alba by triangular fascial sheet (the suspensory ligament).

The Crus Penis: Is an eloncated structure which commences posteriorly as a blunt rounded process, it is closely applied and firmly adherent to the everted border of the pubic, and ischial rami and covered by the ischiocavernous muscle (erector penis) which aids erection by compressing the crura.(Sharlin, 1984).

The paired ischiocavernous muscles (Fig.2) arise from the inner surface of the ischial tuberosity are inserted into the sides and the under surface of the crus penis. A few fibers may proceed to the dorsum of the penis: such fibers are known as pubocavernous levator penis. (Tanagho, 1986).

The two crura converge anteriorly towards each other in the median plane, then near the inferior border of the pubic symphysis; they bend downward and forward to become contiuous with the corpora cavernosa of the penis.

The Bulb of the Penis: lies in the space between the two crura and is firmly connected to the inferior fascia of the urogenital diaphragm. It is oval in section, and merges anteriorly to form the corpus spongiosum of the penile body.

The bulbospongiosum muscle (Fig.2) overlaps the external covex surface of the bulb, and aids in ejaculation by its contractions it is also called the ejaculator urinae muscle, that arises from the central point of the perineum and passes forward to surround the bulb completely, and occasionally , some fibers completely surround the corpora cavernosa. The flattened internal surface of the bulb is pierced above its centre by the urethra which traverses its substance to reach the corpus spongiosum. (Taragto, 1956).

* **The Body of the Penis (corpus):** Fig.3

It is composed of three elongated, cylinderical, cavernous (spongy) masses which are capable of considerable enlargement when they are engorged with blood; two of them are superior, larger lateral masses which are direct continuation of both crura (corpora cavernosa); and the third is

a median, ventral, smaller mass which is direct continuation of the bulb of the penis (corpus spongiosum). (Tanagho, 1986).

The cavernous masses embeded in an unusually dense fascia (Buck's fascia), between which and the skin there is an extremely loose non fatty layer of connective tissue containing the superfifical blood vessels.

The Corpora Cavernosa: forming the main bulk of the penile body substance; being in close apposition with each other and are enclosed in a firm, elastic sheath; the tunica albuginea, and separated only by a median fibrous septum.

The tunica albuginea consists of superficial and deep strata, the superficial fibers are longitudinal and form a single tube which encloses both corpora, the deep fibers are arranged circularly and surround each corpus separately ; forming by their junction in the median plane, the septum of the penis. The septum is thick and complete proximally, but imperfect in the more distal region of the penis where it consists of a series of bands like teeth of comb and so called the pectini form septum and here it allows free communication between the two corpora. The two corpora cavernosa do not reach the end of the penis but terminate within the hollow internal aspect of the glans penis. (Wagner, 1981).

The Corpus Spongiosum: rests in the ventral groove formed by the approximated corpora cavernosa. It tapers slightly towards its end where near the extremity of the penis it suddenly expand to form a soft, conical mass (glans penis), into which are embeded the pointed distal extremities of the corpora cavernosa the corpus spongiosum is enclosed in a sheath of tunica albuginea which expands distally to cover the glans. The tunica albuginea prevents vascular communication between the corpus songiosum and the corpora cavernosa (Warwick and Williams, 1973). However, the absence of a thick fibrous sheath around the corpus spongiosum explains why it becomes turgid but not rigid during tumescence. The base of the glans penis has a projecting margin called the corona glandis and a constriction called the neck of the penis.(Tanagho, 1986).

* **Coverings of the Penis:** Fig.4.

Skin: The skin of the penis is dark, non-hair-bearing, and extremely loose, permitting considerable distension. At the base of the glans, the skin is folded upon itself forming the prepuce or the foresking which is firmly adherent to the glans. On its ventral surface there appears a mucosa membrane fold known as the frenulum; through which courses the frenular artery. In the angle formed between this area and the corona of the glans are located the smegma-secreting glands of Tyson, (Tanagho, 1986).

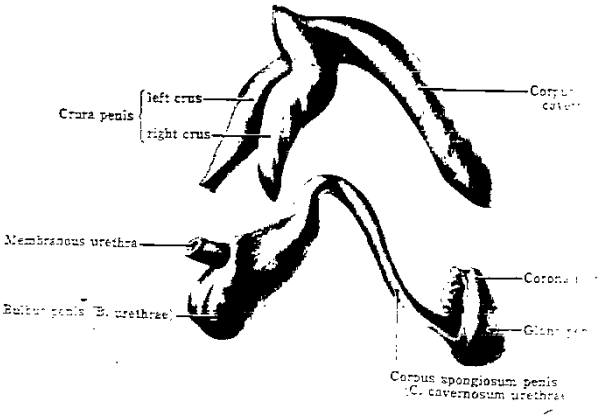

Fig.(3): Dissection of the penis. Observe that the corpus spongiosum is separated from the corpora cavernosa penis.
(After Anderson, 1976).

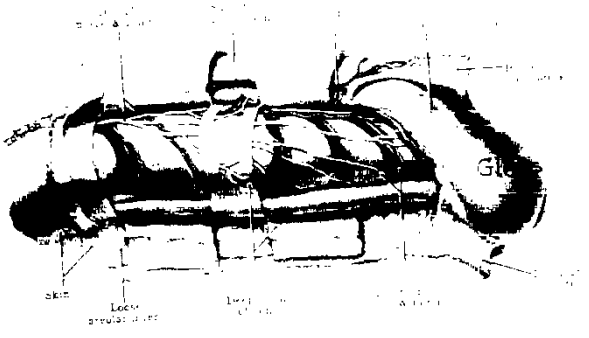

Fig.(4): Penis, side view showing the three tubular envelopes of the penis.
* Skin carried forward as the prepuce.
* Superficial fascia of the penis (Carpus and Colles' fascia).
* Deep fascia of the penis (Buck's fascia)
(After Anderson, 1976).