STATISTICAL EVALUATION OF THE INCIDENCE OF TRICHOMONAS AND MONILIAL INFECTIONS

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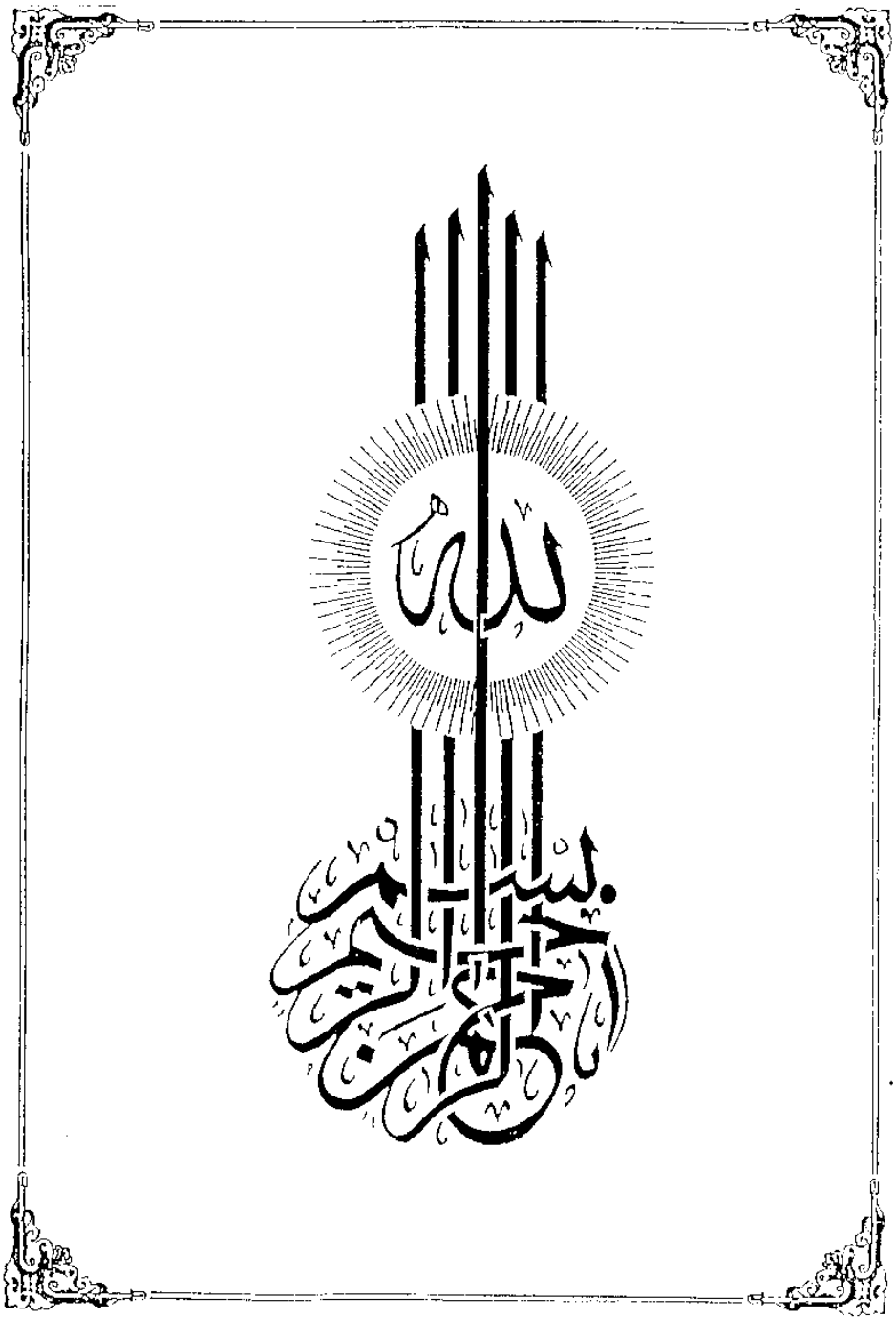

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INTRODUCTION

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Vaginal discharge occurs at any age and affects almost every woman at sometime or the other.

It may be blood stained or otherwise, here we are mainly concerned with a white, cream, yellow or greenish discharge.

Starting first the vaginal anatomy, histological structure, development, then defensive mechanisms against infection in the vagina, and types of vaginal discharge whether physiological or pathological, and microbiology of the vagina, then the pathogenesis of vulvo-vaginitis mainly trichomonas vaginitis and monilial vaginitis.

Lastly an evaluation of incidence of trichomonas and monilial infection was done in a random sample of women complaining of vaginal discharge to asses the frequency of such infection. In addition many new drugs have been brought into use for the treatment of monilial vaginitis. One of these drugs is Tioconazole, used in cases of monilial vaginitis is assessed.

ANATOMY OF VAGINA

ANATOMY OF THE VAGINA

The vagina is an elastic musculomembranous tube extending from the vulva to the uterus and insinuated between the bladder and the rectum. In the adult it varies in length from 8-11 cm., the posterior wall being 1.5-2 cm. longer.

The upper end of the vagina is a blind vault into which the lower portion of the uterine cervix projects. The vaginal vault is subdivided into the anterior, posterior, and two lateral fornices. Since the uterine cervix is invaginated in the anterior wall, the latter is shorter (approximately 8 cm.) than the posterior wall (approximately 11 cm.). According to the respective location of the uterus and vagina, the posterior vaginal fornix is the deepest whereas the anterior vaginal fornix and the two lateral fornices merely form small sinuses of the vaginal wall. The posterior vaginal fornices possesses a peritoneal lining.

The vaginal opening is partially covered by the hymen which is a delicate incomplete membrane. It has one or more apertures to allow the outflow of the menstrual blood.

According to their number and shape, the hymen is described as being annular, crescentic, septate, or

ani is known as the fold of show (Krantz, 1977).

The lumen of the vagina is ordinary obliterated by the anterior and posterior walls lying in apposition. Thus the transverse section of the undistended vagina varies from stellate to H-shape under the urethra, and the middle third, to a crescent shape just below the cervix.

In older women where atrophy has occured, the organ may be crescent shaped all through (Krantz, 1977). When however a woman is in the kness-chest, sim's, or kneeling position and the labiae are separated, the vagina balloons out. This is the result of a negative intra-abdominal pressure transmitted to the vagina causing entry of air (Jeffcoate, 1975).

Normal Vaginal Depth and Axis:

In the living, the vaginal axis lies in an almost horizontal plane with the patient in a standing position. Radiographic colpography has demonstrated the presence of a distinct superiorly convex perineal curve in the lower vagina (Nichols et al., 1970).

The upper vagina lies on the rectum which in turn lies upon and parallel to the levator ani.

Although the cervix and upper vagina have considerable mobility, the limits are more or less anchored

in position over the levators by the cardinal ligaments. The length and flexibility of these ligaments normally permit the cervix and upper vagina to be moved in any direction over the rectum on the levator ani, but not anterior to the margin of the uro-genital hiatus (Nichols, Milley, 1978).

Topography of The Vagina:

Anteriorly the vagina is intimately related to the urinary bladder and the urethra throughout its length. The base of the bladder lies adjacent to the anterior surface of the vagina all along its course. The urethra in the upper third of its length assumes a similar relationship.

The lower two third of the urethra enters into a close anatomical relationship with the anterior vaginal wall, thus involving the anterior portion of the lower part of the vagina. In the region of the upper third of the urethra at its junction with the bladder heavy bands of tissue pass on the anterolateral walls of the vagina adjacent to the levator ani muscles (Puborectalis) with similar fibres from the urethra and vesical neck to traverse on the rami of the symphysis pubis, the pubo-prostatic ligaments of the female. The presence of a thick connective tissue layer interposed between the vagina and the bladder and the upper third of the urethra has

been termed "pubocervical fascia" and musculofascial sheet (Krantz, 1977).

The ureters may be observed on either side in the region of the upper third of the vagina as they enter the muscularis of the bladder. The course in an oblique direction along the anterolateral margin of the vesico-vaginal junction, and actually exist as distinct entities between the bladder and the anterior vaginal wall (Krantz, 1977).

In the majority of cases the left ureter has a longer course anterior of the vagina than the right one (Brash, 1922), and thus is more endangered during vaginal surgery (Platzer et al., 1978).

- The upper fourth of the vagina:

Posteriorly the upper fourth of the vagina is related to the rectouterine space, the cul-de-sac (pouch of Douglas). At this level there is only posterior vaginal wall, its fascia, and extraperitoneal cellular tissue separating the peritoneal cavity from the exterior. The utero sacral ligaments are just above the posterior fornix.

- The middle half of the vagina:

The middle half of the vagina lies very close to the rectum .

- The lower fourth of the vagina:

Behind the lower fourth of the vagina the anal canal has begun and the two organs are separated by the sphincters of the anus and the rectum, as well as the interposing perineal body containing the origin of the bulbocavernosus and the insertion of the superficial transverse perineal muscle (Krantz, 1977).

At its orifice the vagina has on either side the vaginal sphincter (Bulbo spongiosus), the vestibular bulb, Bartholin's gland, and its duct and the triangular ligament (urogenital diaphragm) with its muscles.

At a higher level is the levator ani with the paracolpos above, and the ischiorectal fossa below its insertion. The lateral fornices are related to the lower parts of the cardinal ligaments which are inserted into it.

Arterial Supply:

The blood supply of the vagina is unique, being rich in order to maintain its various segments during the descent of the head in labour (Krantz, 1977).

The following arteries are involved in its blood supply of the vagina: uterine artery, vaginal artery, middle rectal artery, and internal pudendal artery.

The uterine artery: one of the visceral branches of the

internal iliac artery passes through the parametrium above the cardinal ligament and reaches the cervix uteri, where it ramifies caudally into several small branches. These branches are called the cervico-vaginal arteries.

On either side it sends a branch to the cervix to form the coronary artery of the cervix by anastomosing anteriorly and posteriorly. The anterior anastomosis forms the azygos artery of the anterior vaginal wall which descends in the midline downward within the adventitia of the vagina. The posterior artery has approximately five lateral branches on either side until it terminates in an anastomosis in the region of the external urethral meatus with the descending branch from the dorsal artery of the clitoris (Krantz, 1977).

The branches from the uterine artery supply the vaginal fornices and the superior third of the vagina (Platzer et al., 1978).

As a rule the vaginal artery originates near the cervix from the uterine artery sometimes it may originate immediately in the internal iliac a.

In either case, it enters the paracolpium from a cranial direction and then reaches the medial and inferior third of the vagina. With its numerous small branches the vaginal artery supplies the lower part of the blad-

der and the urethra as well (Platzer et al., 1978).

The middle rectal artery sends off several branches to the posterior vaginal wall (Platzer et al., 1978).

After leaving the pelvis through the infrapyriform foramen, the internal pudendal artery runs ventrally through the ischio-rectal fossa in the pudendal canal. It supplies the most caudal vaginal part below the uro-genital diaphragm. The blood reaches the vagina either directly or via the inferior rectal artery (Platzer et al., 1978).

Senile changes occur in the vaginal arteries which decrease in diameter after the age of 40 (Gevorkyan, 1963).

The course of the vessels becomes coiled and spiral with age whereas in the newborn child the vessels run in an extended fashion (Platzer et al., 1978).

Venous drainage:

Bilaterally in the paracolpium the veins of the vagina form the vaginal plexus (Platzer et al., 1978).

The upper portion of the vagina is drained by a cervico-vaginal venous plexus drain into the uterine venous plexus. These vains follow the course of the corresponding arteries.

In the lower portion of the vagina the drainage is along the urethra on to the perineum into the dorsal

vein in the clitoris as well as the middle rectal venous plexus.

The greater part of this drainage is perineal in direction (internal pudendal plexus, terminating in the internal pudendal vein). This vein may be single or paired and communicates directly with the internal iliac vein of its side (Krantz, 1977).

The vaginal plexus is connected with the uterine venous plexus in the parametrium, with the venous plexus of the rectum and the urinary bladder, and ultimately drains into the internal iliac vein by branches which mainly accompany corresponding arteries (Jeffcoate, 1975).

In the most inferior section the veins in the posterior vaginal wall form a cavernous body which is connected with the bulb of the vestibule (Platzer et al., 1978).

The paravaginal veins partly have intimate pads which consist of myoepithelial cells, with the larger veins sphincteric muscular tracts can be observed in the media and adventitia. This enables a throttle of venous drainage from the vagina. Moreover the veins of the vaginal venous plexus have special valves, as is the case of the uterine veins (Lierse, 1958).

The arrangement of the valves guarantees that the main drainage from the vaginal plexus occurs via the