Anatomy, Histology, and Nerve Density of the Clitoris and Accompanying Structures

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LETTER

The obstetric and gynecologic practise, a complete understanding of the structures that make up the female external genitalia is vital. However, when compared to extensive depictions of penile anatomy, the clitoris and accompanying vulvar components are underrepresented in current anatomy and gynaecology textbooks. On the tissue composition of the clitoris, vestibular bulbs (VB), and labia minora, there are conflicting facts. Although the majority of research indicate the presence of erectile tissue in the clitoral body (CB), crura, and VB8, several studies imply that erectile tissue also exists in the labia minora and clitoris glans.

Furthermore, there are few and conflicting accounts on the arrangement of connective tissue layers that make up the clitoris' suspensory ligaments. There is also a scarcity of information about the exact path and route [1].

The DNC, a pudendal nerve terminal branch, can be damaged at any point along its route through the perineum. Loss of feeling in the glans and vulvar skin, chronic pain syndromes, and sexual dysfunction are all possible consequences of injury. The number of DNC injuries related to vulvar operations is unknown, although it is certainly underreported. Harm has been recorded with the use of midurethral slings and obstetric lacerations, periclitoral mass resections, prepuce reductions, and extensive local vulvar excisions all provide a risk of injury. Furthermore, labia minora reductions are becoming more common, and there is little information about nerve density in this tissue.

Vulvar anatomy is crucial for surgical planning and preventing nerve injury, which can lead to loss of sensation, chronic pain syndromes, and sexual dysfunction. The goals of this study are to better understand the anatomy, histology, and nerve density of the clitoris and related structures, as well as to provide clinical correlations to vulvar surgery. All dissections and data collection were done under the supervision of the senior author. Two authors (L.A.J. and A.M.H.) used the same steel ECG calliper and ruler to collect measurements.

The CB was defined as the paired corpora cavernosa with the tunica albuginea, a thin connective tissue layer that invests. The width of the CB was measured at the midway and its length was measured along its dorsal surface. Because this measurement was made before the sur- rounding layers were removed, the width included all tissue layers around the CB. The crura's length and width were measured. Distances from the mid pubic arch to the most anterior aspect of the CB, which is commonly referred to as the dorsal surface, were measured to determine the CB's relative position to the pubic symphysis [2,3].

Unembalmed cadavers obtained from the Willed Body Program at the University of Texas Southwestern Medical Center (UTSW) in Dallas were subjected to vulvar dissections and microscopic examinations with nerve density measurement of the clitoris, labia, and VB. Cadavers who had a history of gynecologic cancer or indications of metastasized malignancy to the vulva were excluded from the study. According to Title 45 of the Code of Federal Regulations, this study was exempt from evaluation by the UTSW Medical Center Institutional Review Board. The following information was gathered: age, race, height, weight, and reason of death. The senior author (M.M.C.) did three preparatory dissections with the other authors present to develop a consistent method of dissection and data collecting [4,5].

shows the place where lengths and widths were measured, as well as distances between structures.

The length and width of the glans, as well as the length and longest extension of the labia minora, were measured prior to dissection. The length of the glans was measured from its junction with the prepuce skin to its most distal extent, and the width at the former point. By multiplying the length and width of the glans, the clitoral index was obtained. 19 To investigate spatial relationships between these components, the closest distance between the glans and the external urethral opening was measured. At 11 and 1 o'clock, the skin along the length of the prepuce was sharply transected.

Acknowledgment

None

Conflicts of Interest

None

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