

## **DETERMINING THE COURSE VARIATION OF THE DORSAL NERVE OF THE CLITORIS IMPLICATIONS FOR PELVIC ORGAN INTERVENTIONS**

### Hypothesis / aims of study

Knowledge of the course and variation of the distal part dorsal nerve of the clitoris (DNC) is prudent; to avoid any iatrogenic injury in the space anterior to the symphysis pubis and also subsequently applying this information for neuromodulation and to construct a computer teaching model. The aims of our cadaver study were to describe the course variation of the dorsal nerve of the clitoris, chalk out the intricacy in its distal anatomy, use a computer model to help illustrate this anatomy and use this computer model for training purposes in electrode placement techniques.

### Study design, materials and methods

6 human female cadavers of variable body weights were sectioned using a 4 cm vertical midline incision from the base of the clitoris extending towards the direction of the umbilicus. The dorsal nerve of the clitoris was identified by dissecting out the fascia, fat and the muscles around it. The measurements of the distal course to fixed structures, such as the bulbospongiosus muscle, isciocavernosus muscle, depth from the skin, distance from the tip of the glans clitoris, lateral distance from the pubic bone, were recorded. The anatomy of the nerve was noted bilaterally, measurements with respect to fixed body structures, were taken and tabulated.

### Results

The DNC distally, pierced the perineal membrane, (mean 2.7cm, range 2.4- 3cm), lateral to the external urethral orifice. It traversed (mean 1.9cm, range 1.8- 2.2cm), along the Bulbospongiosus Muscle before heading posterior to the crura. The DNC reappeared hooking over the crura to lie (mean 2.3cm, range 2-2.5 cm) on the antero-lateral surface of the body of the clitoris, before diving into two cords (mean 0.5cm, range 0.5-1cm) long and terminating ( mean 1cm , range 1-1.5 cm) short of the tip of the glans clitoris.

### Interpretation of results

This study elaborates the anatomy of the distal part of the dorsal nerve of the clitoris. This result should be kept in mind to prevent any iatrogenic injury in this region.

This study shows us that the dorsal nerve of the clitoris does not reach the tip of the glans clitoris, stopping short 1-1.5cm of it.

### Concluding message

This study is the first to demonstrate that the dorsal nerve of the clitoris divides and does not reach the tip of the glans clitoris. This unique anatomy, which was consistent over all the cadavers, is important so that surgeons are aware of the potential iatrogenic injuries and its uses in neuromodulation. This study can be applied by surgeons to design electrical field interfacing parameters and neuroelectrode placement for neuromodulation.