

Histotopographic study of the rectovaginal septum

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SUMMARY

The rectovaginal septum (RVS) is described as a strong connective tissue between the rectum and the vagina. The aim of the present study was to investigate the topography and histological structure of the RVS in 20 cadavers (age range: 54-72 years). After in situ formalin fixation, the pelvic viscera and the surrounding connective tissue were removed, together with the pelvic floor. In 8 cases, the topographical relationships of the septum with the vagina and rectum were studied during dissection. In 8 other cases, serial macrosections of the bladder base, vagina, lower rectum and pelvic floor complex were stained with hematoxylin-eosin, azan-Mallory and Weigert Van Gieson. RVS thickness was evaluated on transverse sections collected at the cranial and caudal levels of the middle third of the vagina (level II) and inferior third (level III). In the other 4 cases, specimens were cut with a slicer in 2-3 mm thick axial slices and plastinated using the von Hagens E12 technique. The RVS is located in an oblique coronal plane, close to the posterior vaginal wall, and is formed of a network of collagen, elastic fibres, smooth muscle cells with nerve fibres, emerging from the autonomic inferior hypogastric plexus, and variable numbers of small vessels. The RVS was thicker at cranial levels II and III, with respect to caudal level II, both in the midline (1.75 and 1.70 vs 0.2 mm, $p < 0.05$) and lateral portions of the septum (2.67 and 2.64 vs 0.17 mm, $p < 0.05$). At caudal level II, there was no statistically significant difference between the thicknesses of the lateral portions and the midline (0.17 vs 0.2 mm, $P > 0.05$). The RVS resembles an hourglass, with a flattened central portion in the frontal plane. Given its position in the centre of the pelvis, the RVS plays a connecting role between the perineal body and the overlying portions of the endopelvic fascia, and may also play an active role in modulating the tone of the musculature of the pelvic walls during variations in endorectal pressure.