

The Role of Pelvic Bone Anatomy in the Pathogenesis of Inguinal Hernia

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Abstract

Background: a small number of reports have suggested that in patients with inguinal hernia, certain pelvic anatomical traits prevail, which are characterized by the low position of the groin, resulting in a marked verticality of the inguinal fold. Based on this notion we investigated a possible correlation of this anatomical characteristic with hernia development, by applying a simple clinical research protocol.

Methods: two groups were formed. A study group including 25 adult patients with a history of inguinal hernia or a clinically proven inguinal hernia and a control group of 10 individuals of the same age and sex distribution with the study group, but with no history of inguinal hernia. On antero-posterior pelvic plain x-rays, we measured Radoievitch's angle which is formed by the interspinal line and the line passing from the anterior superior iliac spine and the pubic tubercle. Mean values of Radoievitch's angle were then compared between the two groups.

Results: patients with inguinal hernia had greater values concerning Radoievitch's angle in a statistically significant manner when compared to controls ($p=0.004$).

Conclusions: individual variability in the configuration of the adult bony pelvis is an important factor in the development of inguinal hernia. Pelvimetry could affect the choice of hernia repair and radiological pelvimetry could be included in the preoperative planning of hernia repair.

Key words: inguinal hernia, pelvic anatomy, Radoievitch's angle, conjoint tendon, inguinal ligament

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