

Original article:

Pyramidalis muscle variations pattern study : Qualitative study

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Abstract:

Introduction: The pyramidalis is a small, triangular muscle, lies in front of the lower part of Rectus Abdominis, contained in the rectus sheath. Arising by tendinous fibers from the anterior part of the pubis and the anterior pubic ligament.

Material and methods:The present study was done in our department of Anatomy. In 30 cadavers the anterior abdominal wall was carefully dissected .The presence and absence of Pyramidalis muscle was noted . The observations were recorded with the help of faculties and students. The data was collected.

Observations: Pyramidalis muscle was present bilaterally in 12 cadavers, unilaterally in 5 cadavers and absent bilaterally in 13. The length of the pyramidalis ranged from 1.5 to 4.5 cms . All these muscles were supplied by subcostal nerve. Pyramidalis muscle was

Conclusion: The results show that this is a muscle of mixed fiber type composition, similar to the rectus abdominus, and that the estimated forces generated by this muscle are relatively small.

Keywords: fiber type, microdissection, pyramidalis, skeletal muscle

Introduction:

The pyramidalis is a small, triangular muscle, lies in front of the lower part of Rectus Abdominis, contained in the rectus sheath. Arising by tendinous fibers from the anterior part of the pubis and the anterior pubic ligament. Superiorly, the fleshy portion of the muscle passes upward, diminishing in size as it ascends, and ends by a pointed apex , which is inserted into the linea alba, midway between the umbilicus and pubis. The muscle is innervated by terminal branches of Subcostal nerve, contraction of this muscle tensing the Linea Alba. With this view present study was done for Pyramidalis muscle in detail to assess its qualitative features in our region.

Material and methods:

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Observations:

Pyramidalis muscle was present bilaterally in 12 cadavers, unilaterally in 5 cadavers and absent bilaterally in 13. The length of the pyramidalis ranged from 1.5 to 4.5 cms . All these muscles were supplied by subcostal nerve. Pyramidalis muscle was present bilaterally, Length of the pyramidalis muscle

was long in 3 cadavers Varying from 3.5 to 5.0 cms in length.



Pyramidalis muscle present bilaterally and was measuring about 3.5cms in length. Pyramidalis muscle was present bilaterally and 4.5cm in length. On the left side proximal part was partly fibrous and distal part was muscular . Pyramidalis muscle was present bilaterally . Right was long and the left was small in 2 cadavers. The muscle is seen frequently either unilaterally or bilaterally. Chouke (1935) reported it is absent in 22%; Anson, Beaton and Mc Vay (1939) reported it to be absent in 10.6% of 330 sides of the observed cadavers.

Discussion:

In the present study out of 60 sides the Pyramidalis muscle was present bilaterally in 24 sides (40%), unilaterally present in 10 sides(16.7%) and absent in 26 sides(43.3%) . Anson, Beaton and Mc Vay stated that among 430 sided the muscle was more commonly absent bilaterally than unilaterally so also in the present study. It is a land mark for an accurate midline incision. The pyramidalis muscle is introduced as a new small muscle free flap, with

description of its anatomy, the surgical technique and this flap was used to treat small recalcitrant wounds in the foot/ankle region. The pyramidalis muscle can be an alternative option in selective cases to reduce donor site morbidity as compared with more traditional free flaps while making the longitudinal incision for a classical caesarean section. The pyramidalis is used to determine midline and location of the linea alba.

The paired pyramidalis muscles are small triangular-shaped muscles that lie between the anterior surface of the rectus abdominus and the posterior surface of the rectus sheath. The precise function of pyramidalis muscles is unclear, but together the muscles are thought to tense the linea alba. The muscles are not always present, or are often unilateral, and vary greatly in size. Their wider inferior margins attach to the pubic symphyses and pubic crests, whereas their narrow superior margins attach to the linea alba. The gross anatomy and innervation of the pyramidalis muscles has been

described by others, but their architecture and fiber type have not been determined in previous publications.

Conclusion:

The results show that this is a muscle of mixed fiber type composition, similar to the rectus abdominus, and that the estimated forces generated by this muscle are relatively small.

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