

Anatomic relations between the piriformis muscle (PM) and the ischiatic nerve (IN)

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Introduction: The piriformis is a flattened pyramidal muscle, partly located within the pelvis and partly behind the hip-joint. In the inferior margin of the piriformis muscle (PM) it is situated the emergence of the ischiatic nerve (IN). Variations are described in which the muscle is perforated by the common fibular nerve when there is high division of the IN. Such variations and the compression of the IN by hypertrophy or spasms of the PM are responsible for a syndrome of nervous compression called piriformis muscle syndrome. Aiming to offer anatomical bases for the surgical access to this region, we have studied the anatomy of these structures. **Methods and results:** 20 gluteal regions of 10 adult formalized cadavers have been dissected, nine of the male sex and one of the female sex. The material was photographed and the following measures have been accomplished: width of the IN in the inferior margin of the PM, extrapelvic length, extrapelvic width in the average point of the belly of the PM and width of the muscle in the level of the emergence of the IN, in its medial margin. The width average of the IN near the inferior margin of the PM was 1.33 cm, for the right side it was 1.39 and 1.27 cm for the contralaterals. The average of the extrapelvic length of the PM was of 7.14 cm, 7.11 cm for the muscles of the right side and 7.18 cm for the contralaterals. The width average of the PM in the average point of its belly was 2.15 cm; for the ones of the right side it was 2.14 cm and for the contralaterals it was 2.17 cm. The width of the same muscle in its point of emergence was 2.20 cm; for the right side it was 2.26 cm and for the left side it was 2.14 cm. In only one gluteal region (5%) the division of the IN into common fibular and tibial nerves was above the PM and in no cadaver the IN passed among the fibers of the PM, as it is described in pertinent literature. **Conclusion:** In the surgical accesses to the IN adjacent to the PM, we must be aware that in 5% of the cases such structure is already subdivided in its branches before crossing the PM; in 66,6% of the cases the width of the IN in the inferior margin of the PM is greater in the right side, and can achieve a difference of up to 0.7 cm between the sides of the same individual; in 60% of the cases the extrapelvic length of the PM and the width in the average point of its belly are larger in the left side, and there can be a variation of up to 0.8 cm in its width and of up to 0.4 cm in its length. In 55,5% of the cases the width of the PM in the point of emergence of the IN was greater in the right side, and it can suffer a variation of up to 0.8 cm between the sides of the same individual.

References

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