

# The importance of prospective and longitudinal studies on ischiofemoral impingement syndrome

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Ischiofemoral impingement may cause pain in the deep posterior gluteal region, the hip, and the groin. Because it is an uncommon condition, its diagnosis is often missed or delayed. When there is compression or irritation of the sciatic nerve, the pain can radiate to the posterior region of the thigh, due to the proximity of the sciatic nerve to the posterior border of the quadratus femoris muscle<sup>(1)</sup>. Although findings of an ischiofemoral space  $\leq 15$  mm and a quadratus femoris muscle space  $\leq 10$  mm usually facilitate the diagnosis of ischiofemoral impingement, the reference standard continues to be the presence of symptoms combined with signs of edema in the quadratus femoris muscle on magnetic resonance imaging (MRI)<sup>(2,3)</sup>.

Ischiofemoral impingement is more frequent in women, as well as in middle-aged or elderly individuals. The etiology is multifactorial, and a number of conditions can predispose an individual to developing ischiofemoral impingement<sup>(4-6)</sup>, such conditions including postoperative changes; femoral deformities such as coxa valga, coxa brevis, and excessive anteversion; hip instability or dysplasia; pelvic retroversion; and hamstring tendinopathy.

Muscle edema is typically identified in the central portion of the ventral surface of the quadratus femoris muscle, in the area of greatest anatomical narrowing, unlike what would be expected in a muscle strain, in which edema tends to occur along the distal musculotendinous junction<sup>(4)</sup>.

The measurement of the ischiofemoral and quadratus femoris spaces on MRI may vary with the positioning of the patient, being influenced by the degree of flexion, adduction, and rotation of the hip, as well as by the patient decubitus<sup>(7,8)</sup>. Measures performed on routine MRI may not reflect the variations that occur during activities of daily living or sports activities<sup>(8)</sup>. The measurement of those spaces tends to be smaller during

external rotation, with adduction or extension of the hip. Therefore, hip positioning is an important factor to be considered in ischiofemoral impingement evaluation. That is one of several reasons why prospective studies are important.

In the previous issue of **Radiologia Brasileira**, we have the opportunity to peruse a prospective study about ischiofemoral impingement<sup>(9)</sup>, probably the first study of its kind in the literature. The prospective study conducted by Barros et al.<sup>(9)</sup> confirmed significant reduction in the ischiofemoral and quadratus femoris spaces in patients diagnosed with ischiofemoral impingement. All of the patients included in the study were evaluated and examined in a standardized manner. However, the study has significant limitations, mainly in relation to the small number of patients included. As in previous studies, no longitudinal evaluation was performed, which limits the conclusions regarding causative or protective factors.

We await future prospective studies involving larger number of patients, and longitudinal studies, in order to increase our knowledge regarding this challenging diagnosis.

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