RBO REVISTA BRASILEIRA DE ORTOPEDIA
www.rbo.org.br

Technical Note

Gluteal pain in athletes: how should it be investigated and treated?☆

Guilherme Guadagnini Falótico, Diogo Fernandes Torquato, Ticiane Cordeiro Roim, Edmilson Takehiro Takata, Alberto de Castro Pochini, Benno Ejnisman*

Universidade Federal de São Paulo, São Paulo, SP, Brazil

ARTICLE INFO

Article history:
Received 30 April 2014
Accepted 1 July 2014
Available online 18 July 2015

Keywords:
Pain
Buttocks
Athletes

ABSTRACT

Gluteal pain is a frequent symptom in athletes, and defining it etiologically is a challenge for orthopedists. In the present study, using an anatomical approach to the posterior region of the pelvis and the proximal femur, divided into four quadrants, systematized investigation is proposed with the aim of optimizing the treatment and accelerating athletes' return to their sport, through correct diagnosis.

Dor glútea em atletas – como investigar e tratar?

Palavras-chave:
Dor
Nádegas
Atletas

RESUMO

A dor glútea é um sintoma frequente em atletas. Sua definição etiológica é um desafio para o ortopedista. No presente estudo, os autores propõem, por meio de uma abordagem anatômica da região posterior da pelve e do fêmur proximal, dividida em quatro quadrantes, a investigação sistematizada do local, visando, por meio do diagnóstico correto, a aperfeiçoar o tratamento e acelerar o retorno do atleta ao esporte.

Introduction

Gluteal pain is a common manifestation among athletes, although its investigation is quite challenging in orthopedic practice because the pain can originate not only from the gluteal structures themselves, but also from the lumbosacral spine, sacroiliac joint and hips.[1]

This issue, although frequent in the daily routine of sports orthopedists, is little discussed in the current literature.

☆ Work developed in the Hip Sector, Centro de Traumatologia do Esporte (Cete), Escola Paulista de Medicina, Universidade Federal de São Paulo, São Paulo, SP, Brazil.

* *Corresponding author.*
E-mail: ggfalotico@yahoo.com.br (G.G. Falótico).

http://dx.doi.org/10.1016/j.rboe.2015.07.002

The present study proposes a model for investigating this condition among athletes.

Description of the method

The area to be studied was delimited by four imaginary lines: superiorly, a horizontal line tangential to the upper border of the iliac crest; inferiorly, a horizontal line tangential to the lower border of the ischial tuberosity; medially, a vertical line that passes through the center of the sacrum; and laterally, a vertical line tangential to the lateral border of the greater trochanter.

Within this imaginary rectangle, four quadrants were delimited starting from the posterosuperior iliac spine (Fig. 1).

Superomedial quadrant (A)

The palpable structures of interest are the spinous processes of L4 and L5 and the joint interline of the sacroiliac joint.

The most frequent disorders of this quadrant are chronic lower back pain due to muscle-ligament injury, radiculopathy due to a herniated disc and pain from the sacroiliac joint.

Other diagnoses include stress fractures of the sacrum, spondylolysis/spondylolisthesis and facet arthropathy.

Lower back pain due to muscle-ligament injury

This condition accounts for approximately 97% of the chronic lesions in the lumbosacral spine of athletes.[2] Lower back pain is usually caused by vigorous eccentric muscle contraction, and the lesion is usually next to the myotendinous junction.[3] Moreover, injury to the iliolumbar ligament is also a cause of lower back pain and gluteal pain and even simulates sacroiliac disorders.[1]

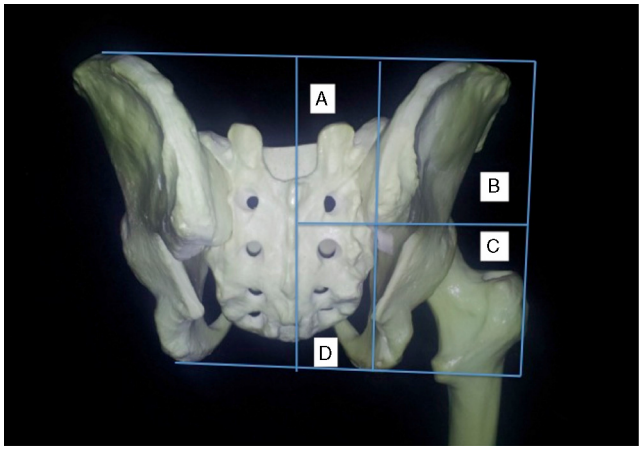

Fig. 1 – Posterior photograph of the bone anatomy of the pelvis and right proximal femur with division into four quadrants starting from the posterosuperior iliac spine.

Radiculopathy

Approximately 90% of radicular compressions occur at the levels of L4-L5 and L5-S1.[4] This condition has been well studied through magnetic resonance imaging.

In sports that require extreme torsional movements of the lumbosacral spine (e.g. tennis or baseball), larger numbers of participants are affected.[5]

The physical examination may demonstrate neurological alterations in the affected dermatome and Lasègue's test may be positive.

The majority of patients respond to non-surgical treatment. Surgery is indicated in cases of progressive neurological deficit, sphincter dysfunction, sexual dysfunction and refractory pain.[2]

Sacroiliac pain

The sacroiliac joint is essential for proper load transference from the lower back spine to the pelvis.[6] Hyper or hypomobility of this joint can lead to painful symptoms.[7,8]

The pain typically affects the superomedial quadrant of the gluteal region, although it can also affect the lower back region, thighs, lateral region of the hips and inguinal region,[7,8] because of the extensive local innervation.[9–11]

Various sports activities can trigger sacroiliac pain. The most frequent ones are those that involve running, jumping and abrupt changes in direction. Approximately 64% of the patients have a history of chronic trauma or microtraumas due to repetition.[12]

The clinical examination may reveal alterations of pelvic inclination and lower back curvature, discrepancy in the lengths of the lower limbs and pelvic hypermotion during gait. The patients often feel pain upon local palpation and there are various trigger points in the adjacent musculature.[13] Provocative maneuvers may be positive. Moreover, the thigh compression test has great diagnostic specificity.[14,15]

Imaging examinations, including radiographs, computed tomography (CT) and magnetic resonance imaging (MRI), can help in the diagnosis, although the gold standard is injection of an anesthetic, guided by means of fluoroscopy, with disappearance of the symptoms.[8]

Treatment should focus on muscle strengthening and pelvis stabilization. Braces to compensate for discrepancies of the lower limbs are useful. Local injections of corticoids should be recommended for cases that are refractory to clinical treatment after 1 month or, if the initial pain is very intense, in order to accelerate rehabilitation.[16–20]

In addition, patients who are refractory to conventional treatment, especially young men who are bilaterally affected and present associated systemic symptoms or morning joint stiffness, should be more thoroughly investigated regarding ankylosing spondylitis.[21]

Fracture due to sacral stress

This condition represents 1–20% of lesions in sport trauma and is often related to weakness or fatigue of the local musculature in bones that are subjected to high cyclical loads.[22,23]