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Challenges in Musculoskeletal Imaging

7246: Athletic Pubalgia and Core Injuries of the Pelvis

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Introduction:

Groin injuries are exceedingly common in athletes and the diagnosis and treatment of groin pain in the athlete, sometimes termed athletic pubalgia, is too frequently a vexing problem for treating trainers and physicians. The clinical presentation of the various etiologies of groin pain can overlap on history and physical examination, and return to play can be widely variable. This lecture will review the clinical presentation and MRI findings specific to the various causes of groin pain in the athlete. There will be a focus on athletic pubalgia lesions, more recently termed core injuries, as they tend to be elusive to clinicians and imagers. The diagnosis and treatment for these core injuries will be reviewed with a hope to raise awareness of both the injuries themselves and of the therapeutic options.

Who will benefit from this information?

This lecture will be beneficial to all clinicians who deal with active patients ranging from high level athletes to recreational fitness enthusiasts. Non-radiologists will benefit from a review of the pelvic core anatomy and the physiologic, biomechanical mechanisms throughout the musculoskeletal pelvis. Various injury patterns with their unique histories and physical examination findings will be reviewed. General radiologists will benefit from a review of basic imaging patterns at MRI seen with athletic core injuries and clinical athletic pubalgia, as these lesions can be detected on routine pelvic imaging performed for a myriad of clinical indications. Imagers who participate in the diagnosis and treatment of athletes are likely to benefit most from this lecture. A dedicated athletic pubalgia MRI protocol and technique will be delineated.

The spectrum of imaging findings associated with core injuries will be followed through an evolution of understanding over the past 10 years. A current review of terminology associated with specific pathologies and MRI patterns will be discussed, along with accepted and proposed treatment algorithms.

What is the problem?

Prior to 2000, understanding of chronic groin lesions in athletes was poor, and these injuries often led to a permanent cessation of the athletic endeavor and premature retirement from athletic careers. Terms like “sportsmans hernia” and “Gilmore groin” became popular, but specific pathologies remained elusive. During the first half of the 2000s, surgical techniques centered on reinforcing anterior pelvic musculature began showing promising results with improved outcomes. Still, imaging played little role in the diagnosis of these “athletic pubalgia” syndromes. Radiologists were being asked to diagnose lesions such as the “sports hernia”, but there was little guidance in the literature as to how to image them.

How has MRI changed the diagnosis and management?”

In 2008, a retrospective series detailing the MRI findings in subjects with clinical athletic pubalgia was published, and a review article outlining the spectrum of MRI findings in a similar subset of young patients with activity related groin pain soon followed. Dedicated athletic pubalgia protocols were introduced and it became clear that MRI was a very effective tool in identifying various lesions in patients with both acute and chronic groin injury. Terms like “the secondary cleft” and the rectus abdominis / adductor aponeurosis were introduced and an understanding of the pathophysiology grew rapidly throughout the radiology and sports medicine communities. Of note, most authors agreed that true hernias were, in fact, uncommon in this patient population.

What will learners be able to do differently?

In the past five years, understanding of numerous injuries about the pubic symphysis, as well as many lesions causing referred groin pain has grown exponentially. This lecture will review common unilateral and bilateral pelvic core injuries observed at MRI including the midline pubic plate disruption, osteitis pubis, adductor compartment syndrome, and various rectus abdominis / adductor aponeurosis lesions, which are still sometimes referred to as “the sports hernia”. Treatment options will be discussed and the expected post treatment MR appearance of many of these lesions will be displayed. Further, confounding lesions ranging from the inguinal region to the hips and even the iliac crests that should be identified at MRI will be shown.

By the end of the session, attendees should feel confident in imaging, identifying, and describing a myriad of lesions around the anterior pelvis that result from core injury and might be a source of protracted groin pain in an athletic population.