Asymptomatic radiologic groin region findings in professional soccer players

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Purpose

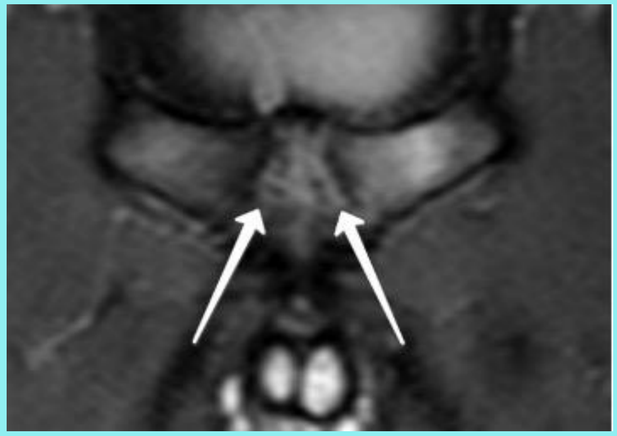
To investigate the prevalence of asymptomatic radiologic groin region findings in adult professional soccer players using magnetic resonance imaging (MRI) and examine the influence of age and limb dominance on their occurrences

Methods and Study Design

In this cross-sectional study, a total of 47 male professional soccer players (age 24.5 ± 5.4 years, height 181.5 ± 5.7 cm, weight 75.1 ± 6.8 kg, and BMI 22.8 ± 1.3) underwent a pre-signing groin MRI scan with a magnetic field induction of 1.5 T and The Copenhagen Standardized MRI protocol. The prevalence of asymptomatic radiologic groin region findings was assessed.

Research

Image analysis revealed an extremely high prevalence of asymptomatic changes in the pubic bones in adult professional soccer players. Fifty pubic bones and adjacent regions (53.2%) highlighted 1-4 changes, while another 44 pubic bones and adjacent regions (46.8%) demonstrated five or more changes. The most frequent changes observed were pubic bones' joint surface irregularities (100%), symphyseal sclerosis (93.6%), parasymphyseal high-intensity line (55.3%), fatty infiltration in bone marrow (38.3%), adductor tendinopathy (34%), and subchondral cysts (29.8%). Pubic bone swelling was also common (56.4%). It was most often of the first degree (30.8%), but swelling of the second and third degree was also quite common (17% and 8.5% of bones, respectively). In the dominant and non-dominant limbs, no statistically significant differences were found. Among all the changes found, only the prevalence of fatty infiltration in bone marrow and symphyseal sclerosis were associated with age.



Magnetic resonance image of the symphysis of an asymptomatic 23-year-old professional soccer player in coronal projection in the PD FS sequence. Hyperintense lines parallel to the subchondral bone plate of the articular surfaces of the symphyseal joint are noted.

Magnetic resonance image of the symphysis of an asymptomatic 25-year-old professional soccer player in coronal projection in T2 Stir sequence. A hyperintense line running parallel to the lower edge of the upper branch of the left pubic bone communicating with the joint cavity (arrow) is noted

Conclusion

Asymptomatic radiologic groin region findings are extremely common in adult professional soccer players with no prior complaints. Bone marrow fatty infiltration and symphyseal sclerosis were associated with age. None of these changes were associated with limb dominance.

Significance of Findings

Knowledge of the high prevalence of asymptomatic radiologic groin region findings is important in the assessment of soccer players with groin pain. This fact should be taken into account during diagnostic evaluation as well as treatment planning.

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