ABSTRACT

Background and purpose: Elbow pain is common in young gymnasts and is frequently encountered by physical therapists working in direct access outpatient clinics. Most elbow pain is benign; however, non-specific symptoms can mask serious medical pathologies, as is the case with osteochondritis dissecans (OCD). OCD is a joint condition in which bone underneath the cartilage of a joint dies due to lack of blood flow. Risk factor analysis, palpable joint tenderness and swelling, joint locking, and a history of high intensity repetitive activities may inform the clinical reasoning; however, the diagnosis of OCD is best made using magnetic resonance imaging (MRI). The purpose of this case report is to describe the main components of the history and physical examination that led to OCD differential diagnosis.

Case description: A 12-year-old female gymnast presented to an outpatient physical therapy clinic with right elbow pain following a compressive trauma. The decision was made to refer the patient for diagnostic imaging evaluation due to localized joint swelling and point tenderness over the radial head, elbow pain with compressive loading, the presence of demographic risk factors, and a recent worsening in her symptoms after a second trauma. MRI subsequently revealed OCD associated with external humeral condyle bone marrow edema. The patient underwent surgical repair.

Outcomes: The follow-up MRI at five months post-surgically reported a “excellent graft integration”. A post-operative progressive load management program was initiated, with full return to sport achieved at 10 months after surgery.

Discussion: This case report highlights the central role of primary care clinicians, such as physical therapists, in identifying patients with suspected pathologic conditions that may need referral for imaging, medical assessment, or surgical intervention. Physical therapists working in direct access environments should be aware of subtle signs/symptoms and specific risk factors that may be indicative of serious pathologies.

Level of evidence: Level 4

Key words: Adolescent gymnast, Differential diagnosis, Direct access, Elbow pain, osteochondritis dissecans, Physical therapy

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