Introduction

Shoulder pain constitutes a highly important complaint as it can cause limitation in daily routine activities and disturb sleep [1].

It is responsible for about 16% of all musculoskeletal complaints and has a self-reported prevalence of about 16-26% in the general population [1-3].

Such a high prevalence makes it difficult to distinguish between potentially harmful disorders or other more benign pathologies, so clinicians must pay attention to the well-known red flags, namely, symptoms of systemic disease, lymphadenopathies, history of cancer, neurological deficit, bony tenderness or a palpable mass [1].

The authors present an atypical case of shoulder pain in which the adequate knowledge of red flags allowed the diagnosis of a systemic disease.

Case Report

Thirty-one-year-old female referred to our Orthopaedic Centre with complaints of severe two-month duration shoulder pain.

The patient reported a past history of depression and a traumatic lumbar fracture more than 10 years before. The pain, which had no mechanical characteristics, started insidiously and became more severe.

On physical examination, the patient had complete range of motion of the shoulder and cervical spine. During palpation, an axillary mass was noted and an ultrasound obtained, revealing a nodular lesion in the belly of teres minor (Figure 1). It was decided to obtain a magnetic resonance imaging which suggested the mass to have characteristics of a metastatic lesion (Figure 2).

A biopsy was planned and the pathology analysis revealed a poorly-differentiated malignancy, positive for vimentin and cytokeratin, confirmed to be a breast malignancy. This clinical report alerts orthopaedists to the need of valuing red flags in order to adequately advise their patients.
Apart from the multiplicity of possible causes, shoulder pain creates further diagnostic problems as pathologies and their clinical manifestations vary among patients. Additionally, pathologies often coexist which contributes to misdiagnosis [6].

In order to adequately evaluate a patient complaining of shoulder pain, one must assess the clinical history in order to understand the onset of the pain, its relation to movement and the possible existence of an eliciting factor [1,3].

Physical examination is a mandatory part of the evaluation. All basic parts of a physical examination should be included, namely: inspection (range of motion, muscle wasting, deformities, swelling); palpation (tenderness, crepitus, masses); specific tests, which can guide the diagnosis, orientating for a rotator cuff tear or instability, for example [1,3].

Attention must also be paid to red flags, as they alert to the need of further workout. Red flags for shoulder pain include signs and symptoms of systemic disease, lymphadenopaties or other unexplained masses, past history of cancer, inflammatory signs, neurological lesions, recent trauma with acute disabling pain or bone tenderness.

In this case, the alertness for the red flags allowed the suspicion which led to the diagnosis of an advanced breast cancer [1].

This patient had shoulder pain due to soft tissue and skeletal muscle metastasis. The latter are rare in cancer patients, with an incidence 0.03 to 17.5% in autopsy studies but a much lower incidence in clinical practice [7].

**Conclusion**

This clinical report alerts orthopaedists to the need of valuing red flags in order to adequately advise their patients. This specific patient had shoulder pain as initial manifestation of breast cancer, making the orthopaedist the first doctor she saw.

**References**