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Visual diagnosis

Shoulder pain after falling from bicycle

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17-year-old male patient with right shoulder pain and movement limitation after falling from the bicycle was admitted to our emergency department.

In physical examination, inspection of right shoulder was normal, there was tenderness and pain at acromio-clavicular region with palpation.

Active and passive motions of the right shoulder was full but caused pain. There was no known record of previous disease. Right shoulder x-ray was taken (Fig. 1a,b). What is your diagnosis in this patient?

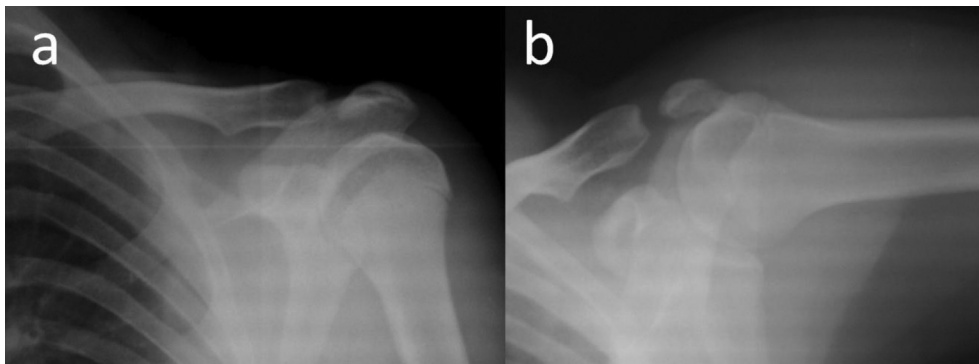


Fig. 1. a: Anterio-Posterior x-ray of shoulder. b: Lateral x-ray of shoulder.

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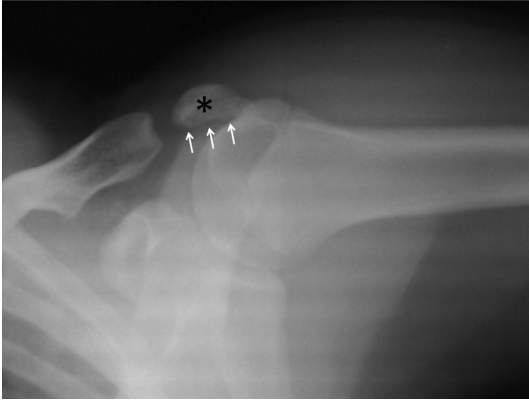


Fig. 2. Lateral x-ray of shoulder, os acromiale was shown with arrow.

1. Diagnosis: Os acromiale

In the patient's shoulder radiography, there was an oval-shaped bone fragment which was separated by a radioluscent line from acromion (Fig. 2).

As a result of the physical examination and radiographic evaluation, the diagnosis of the patient was os acromiale. Conservative treatment was planned for the patient including sling, non-steroidal anti-inflammatory drugs and cold application. After one week rest, shoulder and elbow exercises were started. After two weeks, the patient had no complaint and returned to the normal life.

The Acromion bone occurs with the fusion of three separate ossification centers. These are known as pre-acromion, meso-acromion and meta acromion. However, the fusion in the osseous junction between the acromial apophysis and scapula may take up to 25 years of age. If the fusion does not occur in the anterior apophysial region, os acromiale occurs.¹ Os acromiale is often asymptomatic and is a coincidental diagnosis. Incidence of os acromiale in the community is 8%. Rate of the bilateral cases is 33% in the literature.² Computed Tomography and Magnetic Resonance Imaging are the most commonly used methods to confirm the diagnosis.³

Os acromiale may be misdiagnosed as acromion fracture in patients who present to emergency department with shoulder trauma. If a separate bone is seen on the acromion tip after the shoulder trauma in radiography, os acromiale should be kept in mind in the differential diagnosis. It is helpful for diagnosis that the separate bone is oval shaped and there is neither sharp edge on the fracture line, nor tenderness on the acromion. Physicians working in the emergency department can prevent unnecessary tests and treatments by having information about this anatomic variation.

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