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CONTENT NOT FOR REUSE

CASE REPORT

Myositis ossificans traumatica of the hip adductors with pseudoankylosis

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INTRODUCTION

Heterotopic ossification is not uncommon as a localized phenomenon in a number of conditions. Causes for this could be trauma, burns, or immobility secondary to neurological insults.^{1,2} Myositis ossificans is extraskeletal ossification that may occur in muscles or other soft tissues.³ Localized traumatic myositis ossificans is an uncommon complication of muscle injury and usually is associated with direct rather than indirect injuries.⁴ However, myositis ossificans after muscle trauma affecting the entire length of the muscles from origin to insertion such as in the patient we are presenting has not been reported previously.

CASE REPORT

A 47-year-old man presented with history of pain in his left thigh and groin with a limp of 1-year duration. The patient had history of trauma to the left thigh 1 year earlier due to a fall from a height. On impact with the ground, the patient's leg was hyperabducted, and the medial aspect of the thigh struck a large stone on the ground. There was no history of head injury or local massage. On clinical examination, there was tenderness over the medial aspect of upper two-thirds of the left thigh, and an irregular longitudinal mass hard in consistency was palpable extending from pubic symphysis to the middle third of the left thigh. The skin over medial aspect of thigh was normal. Movements of the left hip were severely painful and limited. The ipsilateral knee, contralateral hip and spine were normal.

Plain radiographs showed a longitudinal ossified mass with well-defined irregular margins extending from the left inferior pubic ramus to the middle third of left femur. A 3-dimensional CT scan showed a 25-cm long irregular ossified mass in the adductor longus (Figure 1) of the left thigh continuous proximally with the inferior pubic ramus and distally with the femur (Figures 2 and 3).

With the aim of providing a mobile and painless hip joint, an 18-cm block of ossified mass was excised from the pubic ramus attachment. Histopathological examination of the excised tissue showed features of myositis ossificans. The patient was put on bisphosphonates and indomethacin postoperatively to prevent any recurrence. At 6 months

follow-up, clinical and radiographic examination showed no signs of recurrence (Figure 4).

DISCUSSION

Myositis ossificans is an extraskeletal ossification that may occur in muscles or other soft tissues. It can be classified as traumatic or nontraumatic; localized or progressive.⁴ Localized, traumatic myositis ossificans is an uncommon complication of muscle injury and usually is associated with direct rather than indirect injuries. Seventy-five percent of localized forms are caused by trauma.³ Common sites for occurrence of myositis ossificans are the quadriceps, adductors, deltoid and brachialis.⁵ The pathophysiology of myositis ossificans after trauma is not fully understood, and proposed etiologies include hematoma organization with progression of fibrous tissue to cartilage and bone, calcification of post-traumatic hematoma, intramuscular ossification after detachment of periosteal flaps, osteoblast proliferation after periosteal rupture, metaplasia of intramuscular connective tissue and an individual predisposition to myositis.^{2,4,5} Mineralization begins 4–6 weeks after injury and proceeds from the periphery to center.⁵ The initial treatment for myositis ossificans includes rest, ice, compression and elevation.⁴ For resistant cases, bisphosphonate treatment has been used with promising results in a small group of patients with traumatic myositis ossificans.⁴ The use of indomethacin, however, which has been successful in treating postoperative extraskeletal ossification, is not supported by the literature for the treatment of traumatic myositis ossificans.⁴ Surgical resection has previously been employed in resistant cases.

Although it is known that muscle trauma or muscle contusion either directly or indirectly may lead to myositis ossificans, it has never been reported to affect the entire length of muscle from its origin to insertion. In our patient, myositis ossificans affected the entire length of the adductor longus possibly because of the combination of direct muscle trauma and indirect stretching injury of the vessels and muscle fibers, which caused a large hematoma that extended along the entire length of the muscle. This resulted in a painful hip joint with only jogs of movements, giving a false impression of fibrous ankylosis. Radiographically, however, the hip joint was normal and resection of a block of the mass restored the hip movements. In patients with muscle trauma, either direct or indirect, if there is no improvement with adequate treatment even after the expected time frame, then thorough clinical and radiographic evaluations should be carried out to detect the presence or onset of myositis ossificans and the appropriate treatment should be started.

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