

Myositis ossificans: a serious complication of a minor injury

John M. Ryan, MD

Introduction

Myositis ossificans is an uncommon complication of blunt extremity injury that can lead to prolonged pain and chronic disability.

Case report

A 24-year-old man sustained a direct blow to his right thigh in a rugby tackle. After a short rest he continued playing for 20 minutes. Later he was seen in a local emergency department with tenderness and swelling of the thigh. He was given a support bandage and advised to rest his leg and take analgesia. Later that night he had a warm bath and drank a few cans of beer. The next day his thigh had swollen further and knee flexion was greatly restricted. He attended his family doctor who diagnosed a hematoma, and he was referred for physiotherapy. Despite localized treatment and exercises he failed to improve. After 5 weeks he was referred to another emergency department for review. The history and clinical findings of marked swelling, tenderness and restricted knee flexion suggested a diagnosis of myositis ossificans, which was confirmed on radiographic examination (Fig. 1).

Discussion

Myositis ossificans is the development of ossification within the connective tissue of muscle.¹ Risk factors associated with its development include the severity of a contusion, continuing exercise after injury, massaging the injured area, and applying local heat.² Radiographic changes are diagnostic but may not be apparent for 3 to 6 weeks. Protected weight bearing, avoidance of early heat, massage, and stretching reduce the tendency to form ectopic bone. Treatment for myositis ossificans should be delayed until



Fig. 1. Radiograph of femur showing typical appearance of myositis ossificans in the soft tissues.

signs of maturation of the bone mass develop.³ The main message for emergency doctors and athletes themselves is that early recognition of the mechanism and clinical findings associated with blunt injuries to the thigh may reduce the incidence of myositis ossificans, provided that judicious use of rest and appropriate first aid methods are adopted.

References

1. Thorndike A. Myositis ossificans traumatica. *J Bone Joint Surg* 1940;22:315.
2. Rothwell A. Quadriceps haematoma: a prospective clinical study. *Clin Orthop* 1982;171:97.
3. Reid D. *Sports Injury Assessment and Rehabilitation*. London: Churchill Livingstone; 1992. p. 551-601.

Correspondence to: Dr. John Ryan, Department of Accident & Emergency Medicine, The Royal Sussex County Hospital, Brighton BN2 5BE UK; tel +44 1273 696955; fax +44 1273 680627; ryanj@pavilion.co.uk

Dr. Ryan is consultant and senior lecturer in Accident and Emergency Medicine at the Royal Sussex County Hospital, Brighton, UK.
This article has been peer reviewed.