

MYOSITIS OSSIFICANS IN AN INFANT

V. GOMBAULT, H. DE BOECK, P. DE SMET

We report a 15-month-old girl with myositis ossificans at the shoulder. Because of the unusual presentation at this age the differential diagnosis with osteomyelitis or a tumoral process had to be considered. It had a benign evolution without specific treatment.

Keywords : myositis ossificans ; shoulder ; infant.

Mots-clés : myosite ossifiante ; épaule ; enfant.

INTRODUCTION

Myositis ossificans is unusual in early childhood or infancy. It characteristically occurs in adolescents and adults.

Only three cases of traumatic myositis ossificans in children under 5 years were found in the literature (3, 4, 5).

We report a 15-month-old infant with a traumatic myositis ossificans who was first seen 2 months after injury.

CASE REPORT

A 15-month-old girl was seen because of painful swelling of the upper arm and inability to move her right shoulder for 5 days. There was no recent trauma but there was a history of a fall from a chair two months earlier. When the girl was seen in the emergency room she had an upper airway infection with a temperature of 37.4°. The clinical examination revealed a painful swelling of the upper part of the right humerus without erythema. Mobilization of the shoulder was very painful at swelling, suggesting posttraumatic callus formation, was palpated at the right clavicle. Roentgenograms of the right shoulder revealed a healed clavicular fracture and a periosteal reaction at the

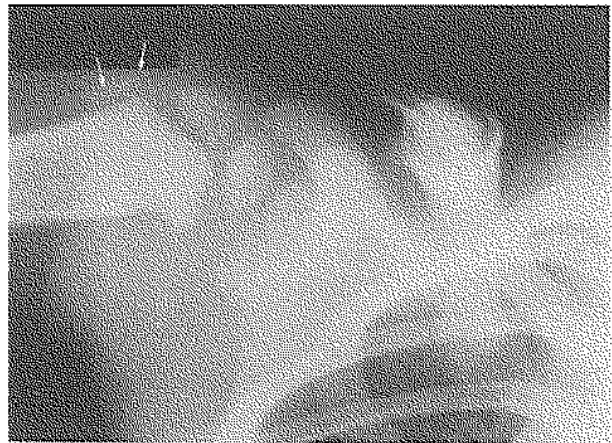


Fig. 1. — Roentgenogram 2 months after injury : a healed clavicular fracture and a periosteal reaction at the proximal metaphysis of the humerus (arrows.)

proximal metaphysis of the humerus (fig. 1). Repeat physical examination ten days later revealed limited abduction to 90°. A hard mass at the right proximal humerus was palpable but it was no longer painful. She still had an upper airway infection and her temperature was 38.7°.

Repeat roentgenograms showed calcifications of the parametaphyseal soft tissues at the proximal humerus, separated from the underlying cortex (fig. 2).

Ultrasonography confirmed the presence of a mass without effusion in the glenohumeral joint. Magnetic resonance imaging (MRI) showed calcification of the soft tissues around the proximal

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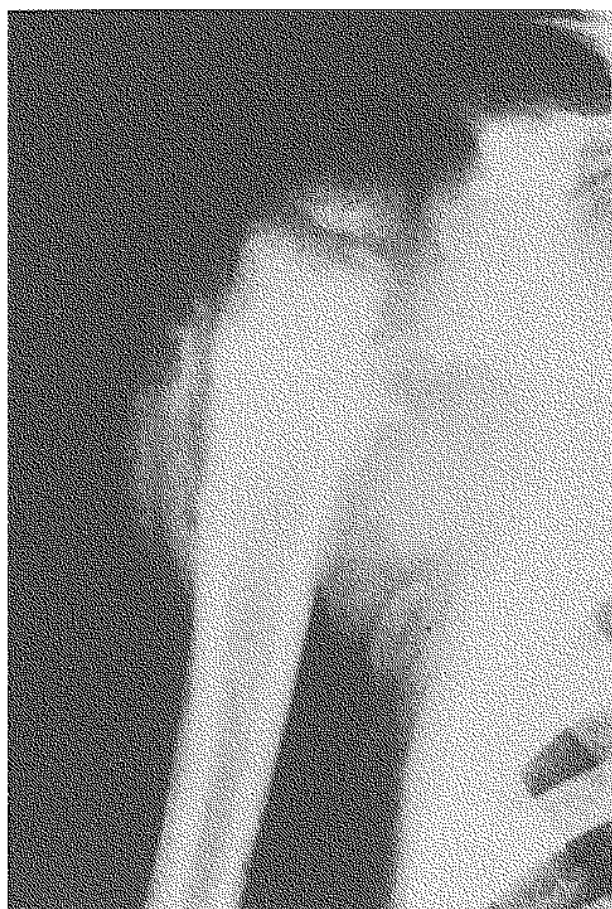


Fig. 2. — Calcifications separated from the underlying cortex.

humerus. There were no signs of malignancy or infection.

Inflammatory parameters were slightly elevated. Based on the history of trauma, the clinical findings and the results of the roentgenograms and of the MRI, a diagnosis of posttraumatic myositis ossificans was made.

A biopsy was not performed. No specific treatment was given.

Six months after the initial presentation clinical examination revealed normal function of the right shoulder. Roentgenograms showed that the calcified mass had disappeared.

DISCUSSION

Myositis ossificans is a nonneoplastic heterotopic ossification of soft tissues (1, 4). Young

adults and adolescents are affected most frequently (1, 3, 4). Less than 1% of cases occur in the first decade. Myositis ossificans usually presents as a painful soft tissue swelling. After a few weeks it becomes more circumscribed and indurated. Most cases are clearly related to a single major episode of trauma or repeated minor trauma (4). Authors reporting cases of nontraumatic myositis ossificans admit that it may be difficult to rule out minor or unremembered trauma as an etiological agent, especially in infants or children. In the case presented here there was a history of a fall which is confirmed by the healed clavicular fracture seen at the first presentation.

Roentgenographically, myositis ossificans is a circumscribed radiopaque lesion with a central lucent zone. It is separated from the underlying cortex by a radiolucent zone (fig. 2).

The differential diagnosis includes extraskeletal osteosarcoma, osteomyelitis and fibrodysplasia ossificans progressiva.

Extraskeletal osteosarcoma is seen mainly in adults (1). Radiological findings completed with MRI ruled out any malignant lesion.

Osteomyelitis is a difficult differential diagnosis. The typical age, the pseudoparalysis and the periosteal reaction on the first roentgenograms did raise the suspicion of osteomyelitis. MRI was useful to exclude an infectious process.

Fibrodysplasia ossificans progressiva (or myositis ossificans progressiva) may mimic myositis ossificans in the first decade of life (2). Fibrodysplasia ossificans progressiva is typically associated with malformation of the great toe (congenital hallux valgus).

Myositis ossificans is a self-limited benign process. It usually does not require surgical intervention; only persistent pain (1) or mechanical block of joint movement (4) may justify surgical resection. Spontaneous regression is the rule.

REFERENCES

1. Bronfen C., Touzet P. H., Peuchmaur M., Prieur A. M., Rigault P. Myosite ossifiante non traumatique chez l'enfant. *Revue de la littérature : à propos d'un cas simulant une tumeur maligne.* *Rev. Chir. Orthop.*, 1993, 79, 229-234.
2. Connor J. M., Evans D. A. P. Fibrodysplasia ossificans

- progressiva. The clinical features and natural history of 34 patients. *J. Bone Joint Surg.*, 1982, 64-B, 76-83.
3. Dickerson R. C. Myositis ossificans in early childhood. Report of an unusual case. *Clin. Orthop.*, 1971, 79, 42-43.
 4. Heifetz S. A., Galliani C. A., Derosa G. P. Myositis (Fasciitis) ossificans in an infant. *Pediatr. Pathol.*, 1992, 12, 223-229.
 5. Wilkes L. L. Myositis ossificans traumatica in a young child. A case report. *Clin. Orthop.*, 1976, 118, 151-152.

SAMENVATTING

V. GOMBAULT, H. DE BOECK, PH. DE SMET.
Myositis ossificans bij een jong kind.

Een 15 maanden oud kind ontwikkelde een myositis ossificans ter hoogte van de schouder. Wegens het on-

gewone voorkomen hiervan op jonge leeftijd diende de differentiaal diagnose met een osteomyelitis of een tumoraal proces gesteld te worden. Er was een gunstig verloop zonder specifieke behandeling.

RÉSUMÉ

V. GOMBAULT, H. DE BOECK, PH. DE SMET.
Myosite ossifiante chez un jeune enfant.

Un enfant de 15 mois a développé une myosite ossifiante au niveau de l'épaule. Le diagnostic différentiel se posait d'avec une ostéomyélite ou une tumeur. La myosite ossifiante a évolué favorablement sans traitement spécifique.