

NONUNION OF AN OSTEOCHONDROMA

by R. VAISHYA, C. S. MUDGAL and L. KLENERMAN

The authors report a case of a symptomatic adolescent with a nonunited fracture of a pedunculated osteochondroma.

Keywords : fracture ; osteochondroma ; nonunion.

Mots-clés : fracture ; ostéochondrome ; pseudarthrose.

RÉSUMÉ

R. VAISHYA, S. C. MUDGAL et L. KLENERMAN. Pseudarthrose d'ostéochondrome.

Les auteurs présentent un cas de pseudarthrose d'une fracture d'ostéochondrome pédonculé, avec symptômes cliniques.

SAMENVATTING

R. VAISHYA, S. C. MUDGAL en L. KLENERMAN. Pseudarthrose van een osteochondroom.

De auteurs beschrijven één geval van symptomatische pseudarthrose op een fractuur van gepedunculeerd osteochondroom bij een adolescent.

INTRODUCTION

Osteochondromata are, by far, the commonest of all bony tumors. Two distinct varieties have been recognized : sessile and pedunculated. The fracture of a pedunculated lesion at its base, following trauma, has been described previously in the literature (1, 2, 3). However, nonunion following such fracture is not a well-known phenomenon.

To our knowledge, such an occurrence has not been previously reported in the existing literature. We report a case of a symptomatic adolescent with a nonunited fracture of a pedunculated osteochondroma.

CASE REPORT

A 13-year-old boy presented with pain around the right knee, following a fall from a bicycle. There was slight tenderness and a small lump over the medial femoral condyle on clinical examination. Plain radiographs of the knee joint revealed a pedunculated osteochondroma arising from the medial aspect of the distal femur with a fracture of the stalk (fig. 1).

The patient was initially treated conservatively and thereafter his symptoms improved, although not completely. The pain continued to wax and wane. The patient began to lose time from school and avoided bearing weight on the affected limb because of continuing pain. Radiographs at 11 months' followup showed that the fracture had not united, and the lesion had increased in size (fig. 2). The patient was admitted for excision of the lesion. On admission, he had a single, well-circumscribed, 2 cm × 2 cm, hard bony swelling over the medial aspect of the distal femur. This was distinctly tender and mobile. There were no other obvious lumps elsewhere.

The University Department of Orthopaedics, Alder Hey Children's Hospital, Liverpool (United Kingdom).



Fig. 1. — Fracture of a pedunculated osteochondroma.



Fig. 2. — Nonunion of an osteochondroma.

At surgery, the swelling was found to be deep to the vastus medialis muscle and was covered by a bursa filled with clear fluid. It had a bluish-white cartilage cap. There was an obvious nonunited (mobile) fracture. The swelling was excised in toto, and measured 3 cm in length.

The patient had an uneventful postoperative recovery. The immediate postoperative result was gratifying with complete resolution of the symptoms.

Histopathological examination of the excised specimen showed typical changes of a benign osteochondroma, without any evidence of malignancy. There was fibrous union at the fracture site.

DISCUSSION

An osteochondroma is usually painless and is often discovered incidently on radiographs. However, pain may occur due to bursitis, fracture, or malignant transformation. Fractures in osteochondroma usually occur through the stalk of a pedunculated lesion (2). The junction of the stalk with the parent bone is potentially a weak site prone to fractures. Such fractures need regular clinical and radiographic assessment. Occasionally, fractures lead to stimulation of the growth of the lesion, and malignant transformation under such conditions is known (1). Furthermore, the fracture

may not heal because of repetitive movements of the overlying musculature. An awareness of the possibility of a fracture and nonunion of an osteochondroma is necessary for diagnosis.

A non-united fracture can cause disabling symptoms such as pain and restriction of joint movement, and if present in the lower limb, a limp may ensue. Surgical excision of such a lesion is indicated. It has been proposed by Aegerter and Kirkpatrick (1) that the cartilage and bone of a fractured osteochondroma are ectopic tissue, and like ectopic tissue elsewhere in the body, are prone to undergo neoplastic transformation. It has been assumed that the influence of a foreign environment is responsible for this altered growth potential, although there is no proof for this so far. There is a rare but distinct possibility of a fractured osteochondroma undergoing a malignant transformation. It is recommended that all frac-

tured osteochondromata, whether symptomatic or asymptomatic be promptly excised, and the patients carefully followed up.

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R. VAISHYA
Vaishya Clinic
Sarafa Road
Gwalior 474001 (India)