

# Autologous transplantation of the interphalangeal joint: a case report

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## ABSTRACT

A 35-year-old woman presented with a pathological fracture of a solitary cystic enchondroma in the proximal phalanx of her right index finger (extending to the articular surface with expansion of the cortex). The affected segment was excised and reconstructed with an autograft from the proximal phalanx of her right third toe. At the 2-year follow-up, the graft was well taken, the articular cartilage was intact, and the range of motion was good. There was no evidence of osteoarthritis.

**Key words:** chondroma; enchondromatosis; transplantation, autologous

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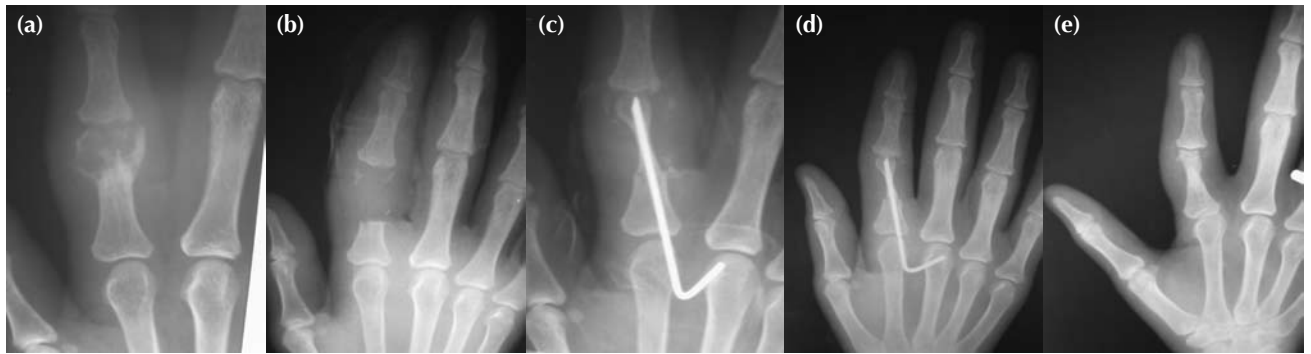
## INTRODUCTION

Solitary cystic enchondromas are occasionally found in the short tubular bones of the hand and

foot, particularly in the metaphyseal region of the proximal phalanges or metacarpals.<sup>1</sup> They remain asymptomatic for a long period and manifest only after trauma or pathological fractures. The cortex of the affected bone may expand greatly when the tumour grows. There are 3 varieties of solitary chondroma of the hand<sup>2</sup>: (1) an intramedullary central enchondroma with a spindle-like distension of the diaphysis from the inside and thinning of the cortex, (2) an eccentric tumour invading part of the cortex with Codmann's triangle, (3) an enchondroma protruding beyond the bone. When the integrity of the bone is threatened, curettage, cauterisation of the cavity, and bone grafting should be performed.<sup>1</sup> Complete excision of the tumour and enveloping capsule is also advised.<sup>3</sup>

## CASE REPORT

A 35-year-old woman presented with a painful, tender, and deformed right index finger following trivial trauma. Radiographs revealed an osteolytic



**Figure 1** Radiographs of the proximal phalanx of the index finger showing (a) before and (b) after excision of the osteolytic lesion, (c) autologous transplantation and fixation with a Kirschner wire, (d) early and (e) 2-year follow-up.

lesion in the proximal phalanx extending to the interphalangeal joint (Fig. 1a). Excision of the affected segment and the articular cartilage was performed (Fig. 1b), and a biopsy confirmed an enchondroma. One week later, autologous transplantation was performed using the proximal phalanx of the right third toe (including the shaft and head). The autograft was fixed with a Kirschner wire (Fig. 1c). The distal parts of the remaining collateral ligaments were sutured to the osteoperiosteal flap of the remaining part of the proximal phalanx of the finger. The donor site was replaced with an iliac graft (Fig. 2).

Physiotherapy was encouraged and the Kirschner wire was removed after 6 weeks. At the 2-year follow-up, the graft was well taken, the articular cartilage was intact, and the range of motion was good, with no evidence of osteoarthritis (Figs. 1d and 1e).



**Figure 2** The right foot (donor site) before and after replacement with an iliac graft.

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