

Primary Index Finger Pollicization for Thumb Reconstruction Following Soft Tissue Sarcoma Excision

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Soft tissue sarcomas in the thumb are rare, but often require amputation to ensure tumour clearance. This can severely impair the use of the entire upper limb and negatively impact quality of life. We describe a 63-year-old male patient with a large malignant fibrous histiocytoma affecting the base of his dominant right thumb. A wide resection of this tumour was performed, followed immediately by index finger pollicization and first web space reconstruction with a reverse pedicled posterior interosseous artery flap. The patient was able to continue using his right hand for functions of daily living and was free from local recurrence until he died from distant metastases 2 years later. Primary thumb reconstruction following amputation for sarcoma can allow a patient to retain useful hand function postoperatively. Provided that strict principles of tumour clearance are adhered to, this need not compromise local recurrence rates.

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INTRODUCTION

Less than 3% of all soft tissue sarcomas occur in the hand.¹⁾ The mainstay of treatment is wide surgical excision, which in the digits often requires amputation. In the case of thumb amputation, primary reconstruction using techniques such as index finger pollicization or toe-to-thumb transfer can significantly improve hand function postoperatively.²⁾ We present our experience of a patient who was diagnosed as malignant fibrous histiocytoma and underwent amputation of his dominant right thumb, followed by primary index finger pollicization. All surgery was performed by the senior author.

CASE REPORT

A 63-year-old male priest was referred to us with a rapidly growing mass over the base of his right thumb (Fig. 1A). Magnetic resonance imaging (MRI) revealed a large soft tissue tumour causing destruction of the first metacarpal and abutting the second metacarpal (Fig. 1B). Incisional biopsy of the mass showed this to be a malignant fibrous histiocytoma. There was no evidence of metastases on the computed tomography (CT) of the thorax and axillae.

Wide excision of the tumour was carried out, maintaining macroscopic clearance margins of at least 1 cm. The excised specimen included the entire right thumb, first metacarpal, trapezium, scaphoid, thenar musculature, a 5 cm segment of the radial digital nerve to the index finger and the proximal two thirds of the second metacarpal (Fig. 2). The extensor and flexor tendons to the index finger fell outside of the resection margin and were spared. Histological examination confirmed a grade III pleomorphic sarcoma, suggestive of malignant fibrous histiocytoma (Fig. 3). The tumour was classified stage III of the American Joint Commission on Cancer

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