

Patient-initiated splintage of a mallet finger injury avoids unnecessary complications

Introduction

Mallet finger injuries are common, caused by disruption of the terminal extensor tendon at its insertion on the distal phalanx. The treatment is prompt splintage of the distal interphalangeal joint in extension for 6–8 weeks. This article details a patient presenting to his GP 2 weeks after sustaining a mallet injury. The GP made the correct diagnosis and organized a referral for a routine fracture clinic appointment, but was unable to supply the appropriate splintage at the time. The patient took the initiative and purchased a standard off-the-shelf mallet splint online, which was delivered the next day. Without the patient's prompt action, the delay in presentation and the wait for a fracture clinic appointment would have led to the risk of permanent deformity or need for surgery. This case highlights the ready availability of off-the-shelf mallet splints to patients online, which may prevent delay in achieving appropriate splintage.

Discussion

For simple soft tissue mallet injuries the consensus for treatment is non-operative management with appropriate splintage of the distal interphalangeal joint in full extension (Jablęcki and Syrko, 2007; Altan et al, 2014; Valdes et al, 2015). Various splints are available, most commonly off-the-shelf and some custom-made.

From a primary care perspective, splintage should be initiated to encourage early tendon healing in the interim period before the patient is seen by an orthopaedic specialist. Delay in treatment can cause unnecessary pain, functional impairment with permanent mallet deformity, requirement for surgical intervention, dissatisfaction with the appearance of the finger and an extended period of immobilization in the splint (Garberman et al, 1994; Bendre et al, 2005). Joint immobilization in extension is recommended in acute injuries, as in this patient, for 6–8 weeks to allow tendon healing.

GPs do not often have ready access to surgical splintage. The patient can be advised to attend the local minor injuries unit or emergency department where splints and

ongoing care are available, but this adds to already overstretched resources. Alternatively, the patient can be referred to a fracture clinic, educated about the treatment plan and encouraged to obtain an off-the-shelf mallet splint from an online supplier. A 'self-care' plan can be initiated with the patient being advised to avoid flexion of the distal interphalangeal joint and maintain compliance with the splint (Wang and Johnson, 2001; Anderson, 2011). A self-help approach towards mallet finger injury has been demonstrated to be successful in a case series and is dependent on sufficient information provision (Brooksbank et al, 2014). Assessment in an orthopaedic clinic with imaging can then determine the most appropriate subsequent management (Wang and Johnson, 2001). **BJHM**

CASE REPORT

A 41-year-old man presented to his GP with a painful and swollen distal interphalangeal joint of his left ring finger. There was a 30° extensor lag. He sustained an unnoticed rupture 18 days previously, with no obvious traumatic event recalled. The patient had no other medical conditions and no relevant family history. The patient worked in computer graphics, requiring full finger function for computer and keyboard work.

Based on the history and typical examination findings the GP correctly diagnosed a closed mallet finger injury, with a view to conservative management using a splint for immobilization of the joint to achieve extensor tendon healing. The patient was informed that such splints were not available at the general practice surgery, only at orthopaedic fracture clinics or the accident and emergency department. The patient was scheduled for an orthopaedic assessment in a fracture clinic, resulting in further delay to definitive treatment.

Following the consultation with his GP, the patient educated himself further on the management of mallet finger using online resources. He sized the appropriate splint and ordered it online, with delivery the next day. Following application of this splint, the patient reported a reduction in pain and swelling.

On review of the patient in the fracture clinic the diagnosis was confirmed and potential causes of spontaneous rupture were addressed. In young, otherwise healthy individuals, spontaneous mallet injuries are very rare, with the vast majority of cases associated with trauma. In such cases of an unnoticed rupture, other causes should be considered such as an unreported simple laceration to the dorsal aspect of the distal interphalangeal joint, and predisposing conditions such as rheumatoid arthritis (Stack, 1969), or chronic haemodialysis (Morein et al, 1977). In this case, the patient had no history of a laceration or of predisposing conditions and no significant family history. The patient had no symptoms or signs of rheumatoid arthritis. A routine blood test screening for rheumatoid disease can be performed if there are any suspicious features, but was not deemed necessary in this case. Radiographs of the ring finger showed no bony mallet component to the injury (*Figures 1a and b*).

Any delay in appropriate treatment was avoided through prompt and straightforward purchase of off-the-shelf splintage online. The patient was advised to continue splintage for a further 4 weeks and was referred to the hand therapy service for ongoing care. The extensor tendon injury healed and an excellent functional result was achieved.

Mr Rohan Prakash, Foundation Year 1 Doctor, Department of Trauma and Orthopaedics, Royal Free Hospital, London NW3 2QG

Mr Edward Ong, Foundation Year 1 Doctor, Department of Medicine and Surgery, National University Hospital, Singapore

Mr Dominic Brown, Foundation Year 1 Doctor, Department of Care of the Elderly, Royal London Hospital, London

Mr Alistair Hunter, Consultant Orthopaedic Surgeon, Department of Trauma and Orthopaedics, University College London Hospitals NHS Foundation Trust, London

Correspondence to: Mr R Prakash (rohan.prakash@nhs.net)

Figure 1. a. Lateral radiograph and (b) posterior-anterior radiograph of left ring finger shows no bony component to mallet injury.



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LEARNING POINTS

- The differential diagnosis for a mallet injury includes closed trauma, unnoticed closed injury, open tendon laceration, and spontaneous rupture secondary to rheumatoid arthritis or chronic haemodialysis.
- When the mechanism of injury is unclear, the spontaneous causes for mallet injury should be sought before the diagnosis of an unnoticed injury is made.
- Delay in prompt treatment can lead to morbidity with prolonged splintage, permanent mallet deformity or requirement for surgical intervention.
- If mallet splints are not readily available in primary care, appropriate prompt splintage can be achieved by guiding patients to standard off-the-shelf mallet splints from online suppliers.

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Images in Medicine

Mucosal malignant melanoma presenting with huge, fleshy, dark-red polyp in the nasal cavity

A 76-year-old woman presented with a 10-day history of left nasal blockage and postnasal drip. She reported frequent nosebleeds, dull headaches and facial numbness on the left side. Nasal endoscopic examination showed a huge, fleshy, dark-red, polypoid mass filling the entire left nasal cavity (Figures 1 and 2). Pathological examination showed this to be a mucosal malignant melanoma. The patient underwent wide endoscopic tumour excision. Mucosal malignant melanomas are uncommon tumours arising from melanocytes and may masquerade both clinically and histopathologically as benign

lesions, making accurate early diagnosis and treatment difficult. There is no specific consensus on how to manage mucosal malignant melanomas. The primary treatment

is radical surgical resection. The prognosis remains poor, because of high rates of local recurrence or systemic metastasis. Clinicians must rule out the possibility of a sinonasal mucosal malignant melanoma because of its rare, aggressive and invasive nature. **BJHM**

Figure 1. Photograph of nasal endoscopic examination showing a huge, dark-red, nasal polyp filling the entire left nasal cavity.

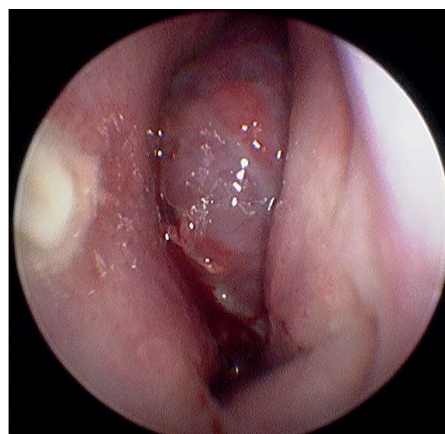
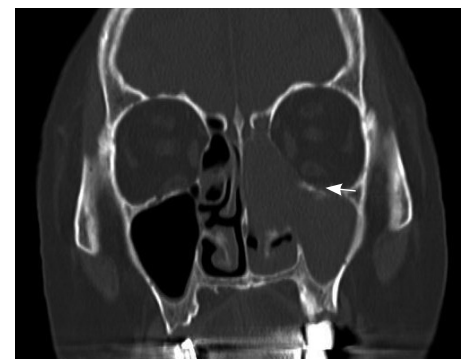


Figure 2. Coronal computed tomography showing soft tissue mass lesion in the left nasal cavity with extension into left maxillary and ethmoid sinuses, and the left orbit.



Dr Se-Hyung Kim, Associate Professor, Department of Otorhinolaryngology-Head and Neck Surgery, Jeju National University School of Medicine, Jeju National University Hospital, Jeju, 63241, Republic of Korea (meddoc98@gmail.com)