CASE REPORT

Spontaneous painful subungual thumb haematoma

Nihull Jakharia-Shah,¹ Priyanka Chadha,² Mahendra Kulkarni³¹Department of Medicine, King's College London, London, UK²Department of Plastic Surgery, Chelsea and Westminster Hospital, London, UK³Department of Plastic Surgery, Wexham Park Hospital, London, UK**Correspondence to**Mr Nihull Jakharia-Shah,
nihullshah@hotmail.com

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SUMMARY

We present the case of a 56-year-old man who presented to our accident and emergency department 15 years after a work-based injury to his left thumb. In January 2017, the patient was woken up acutely with excruciating pain in his left thumb with no preceding trauma. On clinical examination, only a subungual haematoma was noted. Radiographs of the effected thumb demonstrated a round, lytic lesion with an accompanying hairline fracture on the distal phalanx of the left thumb. The radiologist suggested a differential diagnosis of enchondroma should be considered.

The patient was referred for a routine plastic surgery outpatient appointment. Curettage sampling of the lesion was performed and a cement filler was used to prevent further pathological fractures.

The biopsy report stated that the sample contained normal bone tissue with no evidence of enchondroma or other malignancy and the patient was discharged without any further complications.

BACKGROUND

This case is used to highlight the need to consider various diagnoses when there are isolated and

unusual clinical presentations and the importance of appropriate multidisciplinary teamwork to avoid missing crucial diagnoses.

A subungual haematoma is a collection of blood beneath the nail. It commonly forms secondary to trauma, usually a crush injury. Pain results due to increased pressure beneath the nail and a dark red discoloration of the nail is observed on clinical examination.

Enchondromas, a top differential in this case, are benign common tumours of the bone. They are frequently diagnosed as a result of an incidental finding and often remain symptomless. However, they can cause pain, from fractures, swelling and mass effects. Thus, it is important to document and acknowledge the various presentations of an enchondroma and to emphasise the need to keep it as a differential in such situations.

CASE PRESENTATION

We present the case of a 56-year-old man who is a right-hand dominant manual labour. This man presented to accident and emergency department (A&E) 15 years ago after a work-based injury to his left thumb. In the emergency department, the nail was removed and an X-ray was performed which showed no pathology. As such, he was discharged without follow-up and had no subsequent issues.

In January 2017, the patient woke up one morning with spontaneous pain in his left thumb. On clinical examination, there was a clear subungual haematoma (figure 1). There was no preceding trauma to the thumb and the patient was fit and well prior to the event. He had no significant medical history, took no regular medication and was a lifelong non-smoker. The patient presented to A&E where radiographs were ordered as a result of his significant discomfort. These demonstrated a round, suspicious-looking lytic lesion associated with a pathological hairline fracture on the distal phalanx of the left thumb (figure 2). The radiologist suggested a differential diagnosis of enchondroma should be considered.

The patient was referred for a routine plastic surgery outpatient review. Upon review at the clinic, it was decided that a biopsy of the lesion should be performed with a differential diagnosis of melanoma. Curettage sampling of the lesion was performed intraoperatively and the resultant defect was filled with a cement spacer to prevent further pathological fractures.

The report from the biopsy stated that the sample contained normal bone tissue with no evidence of enchondroma or other malignancy. Although this

Figure 1 Image of left thumb with clear subungual haematoma.

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Figure 2 X-ray showing round, lytic lesion and associated hairline fracture.

outcome was surprising, it did not change the management of the patient as he had already undergone curettage and bone cement replacement, treating the concurrent fracture. The patient was discharged without any complications.

INVESTIGATIONS

X-ray radiographs of the lesion were undertaken both at first presentation from the injury 15 years ago, and again following the spontaneous subungual haematoma. Three-view radiographs (anteroposterior, lateral and oblique) are recommended in cases of subungual haematomas. This was used to detect bony abnormalities and aided in the analysis of the lytic lesion within the phalanx and the associated pathological fracture.

Biopsies with histological analysis were undertaken to identify the nature of the lytic lesion noted on X-ray radiographs.

DIFFERENTIAL DIAGNOSIS

- ▶ Post-traumatic subungual haematoma
- ▶ Enchondroma
- ▶ Melanoma
- ▶ Chondrosarcoma
- ▶ Bone infarct

TREATMENT

Curettage was performed in theatre to remove suspected pathological tissue and bone samples were sent to the laboratory for histological analysis.

A cement bone spacer was used to fill the defect after curettage and to prevent further pathological fractures.

In general, a painful subungual haematoma should be decompressed via trephining or nail removal.

OUTCOME AND FOLLOW-UP

The biopsy result stated that the sample was normal, physiological bone tissue with no evidence of enchondroma or any other malignancy. As such the patient was discharged without follow-up and has not reported any complications since.

DISCUSSION

Subungual haematomas are caused by a collection of blood beneath the nail.¹ They commonly form secondary to trauma, usually a crush injury. Pain results due to increased pressure underneath the nail and the presentation can either be acute, where discoloration of the nail is a bright red or chronic, where a purple-black nail discoloration, which is usually not tender, is noted.²

Athletes can develop subungual haematomas due to repeated trauma, for example, in the big toe of the foot in marathon runners.³ A similar theory has been applied to this patient, where his subungual haematoma was not preceded by acute trauma, as he is a manual labourer operating heavy machinery which can cause repetitive trauma which builds unnoticed over time. This would explain the development of the fracture as well as the reason why the patient reported a lack of distinct trauma prior to the event. It would also explain the darker discoloration of the digit which suggested a chronic haematoma and the fracture would explain his pain.

Learning points

- ▶ Subungual haematoma is a collection of blood beneath the nail which commonly forms secondary to trauma. It presents with pain and discoloration of the nail and rarely occurs completely spontaneously.
- ▶ An acutely painful subungual haematoma should be decompressed either via trephining or nail removal. Three-view X-ray radiographs should be taken to assess for associated pathology.
- ▶ When assessing a seemingly spontaneous subungual haematoma, it is essential to exclude more sinister pathology and to take a full and thorough history to appreciate if chronic trauma may be the cause.
- ▶ Enchondromas are the most common tumour of the bones of the hand. They are usually symptomless, however, can present with pain, fractures or swelling of the digit. Thus, enchondromas should be considered as a differential diagnosis in any of the above presentations.
- ▶ It is vital that neoplastic causes of subungual pain/discoloration/bleeding are excluded. These include, but are not limited to, malignant subungual melanomas or squamous cell carcinomas and benign growths such as glomus tumour or verruca vulgaris. The gold standard diagnostic test is biopsy of the nail bed. Histological and cytological examination of the biopsy sample can provide a specific diagnosis of any malignancy present. Should a diagnosis of malignancy be made, further investigations should be conducted to evaluate the extent of tumour growth and the presence of metastases. Treatment ranges from simple excision to digit amputation with adjuvant chemotherapy and/or radiotherapy, depending on the progression of disease.

An acutely painful subungual haematoma should be decompressed either via trephining or nail removal.⁴ X-ray radiographs should be taken to identify any underlying fractures or other pathology, for example, an enchondroma which can cause secondary pathological fractures. It is important that neoplastic differentials are excluded. These include malignant cancers such as subungual melanoma or squamous cell carcinoma and benign growths such as verruca vulgaris and subungual glomus tumour, to name a few. It is difficult to differentiate between many of the tumour types through examination alone, therefore a biopsy is required. If a malignancy is present, further imaging must be conducted to stage the tumour and investigate for metastases. Treatment will involve surgical excision with or without adjuvant chemotherapy and radiotherapy.

Enchondromas are the most common tumour of the bones of the hand (responsible for 90% of hand bone tumours).⁵ They are commonly asymptomatic, thus, most diagnoses are made as a result of an incidental finding.⁶ Rarer presentations documented in literature include: enlargement of the phalanx,⁷ deformity of the digit⁸ and pain.⁹ Pain is the most common presenting complaint due to the development of a secondary fracture. There are no documented reports of enchondromas presenting with subungual haematomas. Due to their benign nature, most enchondromas do not require treatment. In the event of persistent symptoms or a non-healing fracture, curettage and bone grafting should be performed.¹⁰

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