



A rare case of epidermal cyst of hand with review of literature

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Abstract

Epidermoid cysts commonly occur in the soft tissues in a subcutaneous location as a result of trauma or surgery. They are benign cystic lesions that have a good outcome after excision. Here we present a case of epidermal cyst of hand in 56 year old male patient. X-ray demonstrated a soft tissue swelling without bony involvement on the palmer aspect at the level of middle phalanx of the right middle finger. MRI report was suggestive of round to oval lobulated well defined lesion seen on the palmer aspect of right middle finger measuring 3.1x1.6 cm. We present its further management and review of literature.

Keywords: Epidermal cyst, Soft tissue swelling, Phalanx, Excision Biopsy

Introduction

Epidermoid cysts have been called inclusion cysts, epithelial cysts, keratin cysts and epidermoid inclusion cysts. These cysts are characterized by an epidermal lining containing keratin. These cysts commonly occur in the soft tissues in a subcutaneous location and occasionally in intratendinous, subungual or intraosseous locations^[1]. These are painless, benign, slow-growing soft tissue tumor that often occur in the hand. These usually occur months to years after a traumatic event. These cysts commonly occur in the third to fourth decade of life and are more common in men than women. The majority of these lesions are located in the distal phalanges of the upper limbs, with some exceptions such as the jaws, the skull and the sacral bone^[2]. These lesions are usually asymptomatic unless they get complicated by rupture, malignant transformation to squamous cell carcinoma or infection^[3]. Here we present a case of epidermal cyst of hand in 56 year old male patient and its further management with review of literature.

Case Report

A 56 year old male presented to us in orthopaedics OPD with a round, solitary, well defined soft mass on the palmer aspect of the right middle finger over middle phalanx (Fig 1). Mass was first noticed 5 years back. The swelling was initially peanut in size that gradually increased in size over 5 years to its present size of 3x1.6 cm. A detailed clinical examination was done to assess the general condition of the patient, status of the neighbouring joints and presence of any associated injuries or lesions. On physical examination, the swelling was painless, compressible, slightly mobile and non-reducible. No neurovascular deficit was associated with the swelling and Tran's illumination test was negative. There were no dilated veins present over the swelling. There were no scar or sinus associated with the swelling. The swelling was non tender and there was no local rise of temperature over the swelling. No visible pulsations were noted over the swelling. No bony irregularity was noted. X-ray of the affected hand and MRI scan was done preoperatively to locate the extent of the swelling, extraosseous extensions and involvement of neurovascular bundle. X-ray demonstrated a soft tissue swelling without bony involvement (Fig 2). MRI report was suggestive of round to oval lobulated well defined lesion seen on the palmer aspect of right middle finger at proximal interphalangeal joint measuring 3.1x1.6 cm, appearing isointense on T1, heterogeneously hyperintense on T2.

Hyperintense signals were seen on Fat Sat sequence with no intrasubstance hypointense fat signal. No underlying obvious tendon and bony invasion was seen (Fig 3). Differential diagnosis on MRI were Ganglion cyst and Glomus Tumour of hand. Routine laboratory investigations like complete hemogram, bleeding time, clotting time, blood urea, blood sugar, serum electrolytes, urine complete examination, ECG and chest x-ray was done for pre anaesthetic evaluation and preoperative planning for surgical excision. Patient was taken up for excision biopsy under regional anaesthesia. Patient was kept in supine position on the operating table and the swelling was completely removed. The excised mass was sent for histopathological examination. Patient was discharged from the hospital in stable condition. Sutures were removed on 14th day after surgery. The histopathological report was suggestive of epidermal cyst with extensive foreign body giant cell reaction in the wall. Post op follow up of the patient was uneventful without any recurrence.



Fig 1: Showing the swelling clinically



Fig 2: Preoperative Xray of the swelling

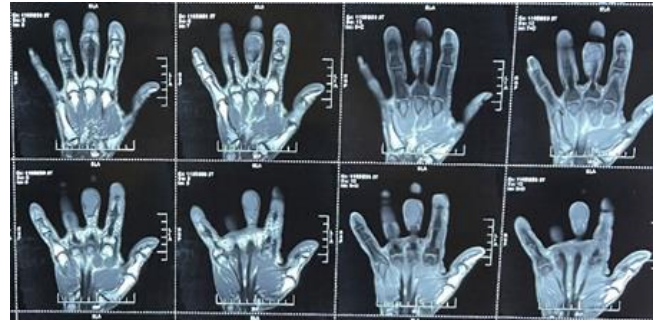
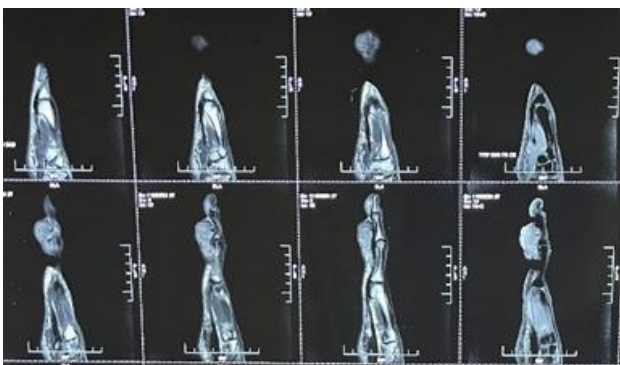


Fig 3: Preoperative MRI of the swelling

Discussion

There are various differential diagnosis of epidermoid cyst like ganglion cyst, mucoid cyst, foreign body granuloma, gouty tophus, giant cell tumour of tendon sheath, lipoma, glomus tumour as well as malignant tumours. Intraosseous epidermoid cyst can be confused with enchondroma^[4]. Large rapidly growing lesions should invoke immediate attention while tenderness is often pathognomonic of infection and inflammation or less likely malignant transformation. Epidermoid bone cysts are rare lesions and usually involve the skull and the phalanges of the hand. The most common site for phalangeal involvement in the hand is the distal phalanx of the fingers. They are regarded as congenital, traumatic, or iatrogenic in origin^[5]. Some studies have suggested that the origin of a phalangeal cyst is either directly caused by traumatic implantation of epidermal fragments into the bone by any type of injury or due to migration of a fragment of the nail bed into the phalangeal bone. Radiologically, epidermal cysts are well-defined round osteolytic lesions, histopathologically consisting of an inner lining of squamous epithelium covered by sheets of laminated keratin that occupy the whole cavity of the cyst. Therapeutic management options are either curettage or excision depending on the clinical presentation of the lesion and depending upon the complaints of the patient. However, at times the diagnosis of these lesions becomes difficult because they can mimic a number of clinical conditions, so a good preoperative clinical history is needed before the treatment is planned. Due to the rare nature of this cystic lesion, it is difficult to establish the correct diagnosis before surgery^[6, 7]. Epidermoid cysts of the finger phalanx are considered rare pseudotumours that are benign lesions with a good functional outcome after simple excision^[8]. The subcutaneous epidermal cysts require simple excision. Meticulous dissection is necessary to remove the entire capsule of the cyst^[9, 10]. Local curettage and bone graft may become necessary for the lesions that erode bone. However, amputation can be required when the lesion is too large, ruptured, infected or the affected finger is severely compromised to the extent that it can-not be treated with simple excision alone. Painful lesions should be treated early for both cosmetic purposes and functional outcomes.

Conclusion

Epidermal cysts are rare clinical entities that have a history of previous trauma. Intraosseous epidermal cysts should be treated with excision and curettage of the wall of the cavity of the cyst. This is distinct from subcutaneous epidermoid cysts where simple excision is sufficient as seen in the present case.

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