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Extra skeletal chondroma in 11 years old female at flexor tendon sheath of right middle finger, rare presentation: Case report

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Abstract
Introduction: Extra Skeletal Chondroma (ESC) is a benign, slow-growing cartilaginous tumour arising from tenosynovial sheaths. The aim of this article is to report and discuss a case of ESC affecting Ring finger flexor tendon Sheath, rare presentation.
A 11-year-old female presented with a swelling in the volar aspect a of the right middle finger flexor tendon sheath. On clinical examination, there was a 4cm/ 1cm non-tender, hard, ill-defined mass. Ultrasound showed a large well defined thick wall mass, located inside flexor tendon sheath. Magnetic Resonance Imaging showed a large well defined mass involving the flexor tendon sheath of Ring finger. The patient underwent wide local excision under regional block. The histopathological examination of the specimen revealed binucleated chondrocytes with dots of calcification confirming Extra Skeletal Chondroma.
Discussion: There are many theories trying to explain the origin of ESC, as some authors think that it originates from the pluripotent cells of the tenosynovium, while others state that it may be derived from metaplasia of the tendon sheath. In this case, the lesion was completely surrounded by fibers away from the nearby tendons sheath, and periosteum.
Conclusion: Extra skeletal chondroma is a rare benign lesion, although mostly affect the upper extremities, it can be found anywhere in the body, histopathological examination of the specimen is the diagnostic method of choice.

Keywords: Extra skeletal chondroma, cartilaginous tumour, tenosynovial sheaths, periosteum

Introduction
Chondromas are described as benign cartilaginous tumors. They can be found in any part of the body with cartilaginous bones, but often occur in short tubular bones, especially metacarpals and phalanges [1]. A benign, slow-growing cartilaginous tumor arising from tenosynovial sheaths is called an extraskeletal chondroma, or a soft tissue chondroma, in another word, it is the soft tissue chondroma adjacent to tendons without connection to bone or periosteum [2]. ESC arises from all tissues except bone or cartilage [3]. The peak age of affection is between the third and sixth decades of life with- out sex preference [4].

Patient information
A 11-year-old female presented with a swelling in the volar aspect a of the right middle finger flexor tendon sheath. On clinical examination, there was a 4cm/ 2cm non-tender, hard, ill-defined mass. Ultrasound showed a large well defined thick wall mass, located inside flexor tendon sheath. Magnetic Resonance Imaging showed a large well defined mass involving the fleor tendon sheath of Ring finger. There was no family history of the current situation.

Clinical examination
There was a 4 cms / 2cms non-tender, hard, ill-defined a swelling in the volar aspect a of the right middle finger flexor tendon sheath No skin changes, no neurovascular abnormality.

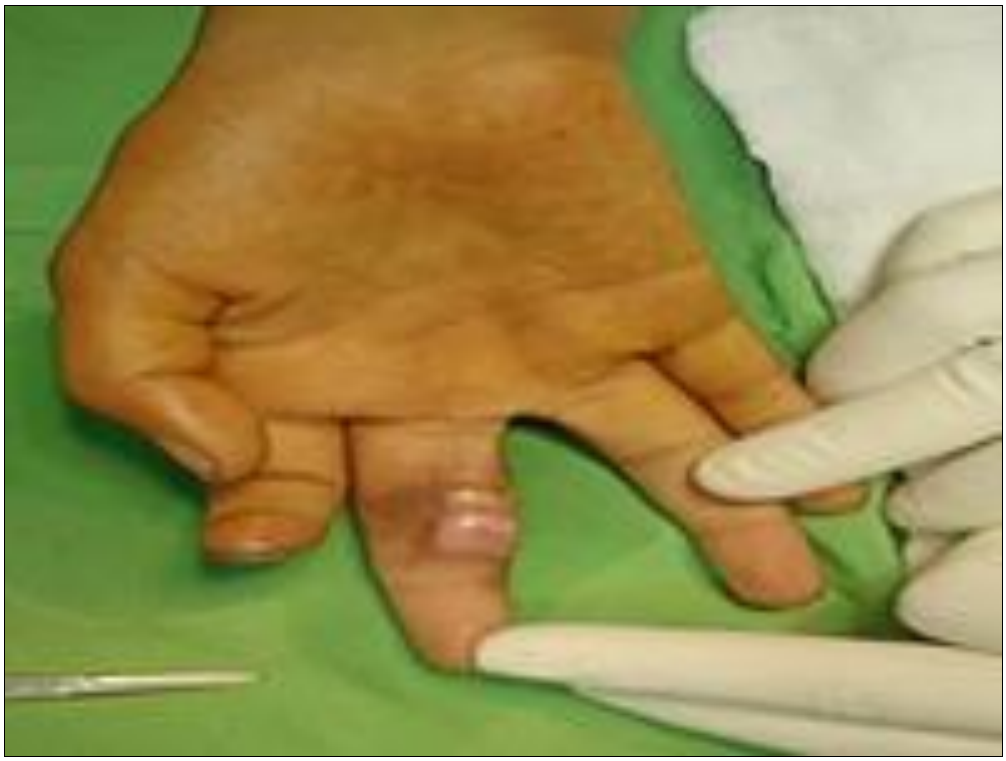

Fig 1: Showing swelling on right middle finger on volar

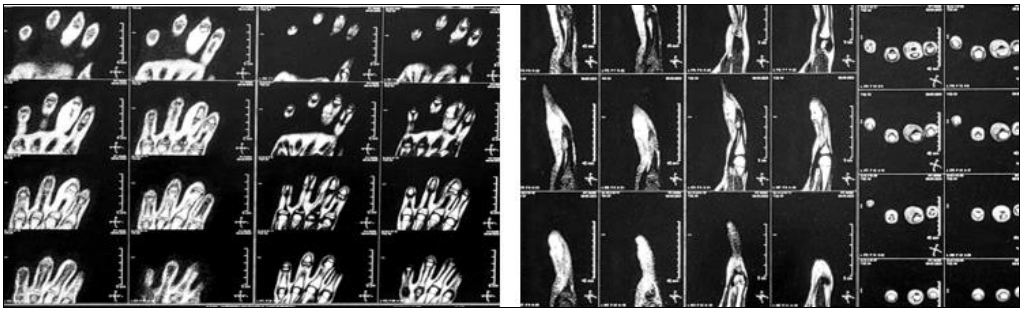

Fig 2: Magnetic resonance imaging (T_2 weighted, axial section) showing hyperin- tense mass lesion involving the adductor compartment of the Right Hand with Fingers

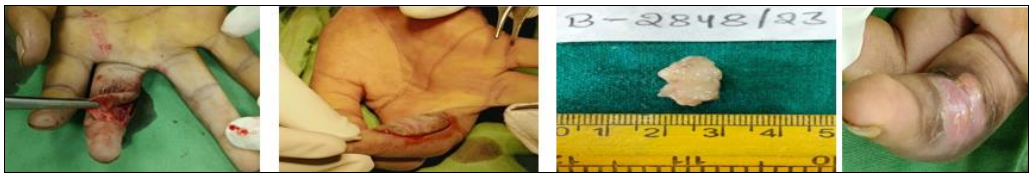

Fig 3: Intraoperative findings of the lesion Post- Operative healing of operated site

Diagnostic assessment

Hematological tests were normal. Ultrasound shows A Large well defined thick walled mass, located inside of Flexor tendon sheath of Right Hand Middle finger suspected to be Gaint Cell Tumour. Magnetic resonance imaging (MRI) showed a large well defined mass of 4cm/2cm involving the Flexor Tendon Sheath of Right Hand Middle Finger. The lesion was hyperintense to the surrounding muscles on T2-weighted image, and isointense to them with peripheral enhancement on T1-weighted image (Fig. 2). Core needle biopsy was inconclusive.

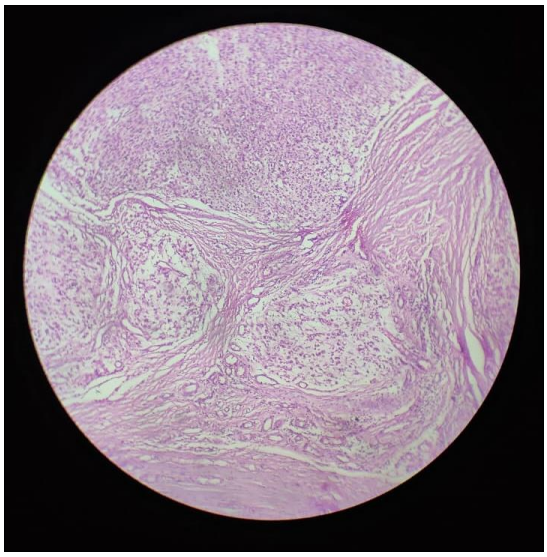

Fig 4: Low power image: Multiple lobules composed of cartilagenous cell separated by fibrocollegenous septa diagnosis assessment

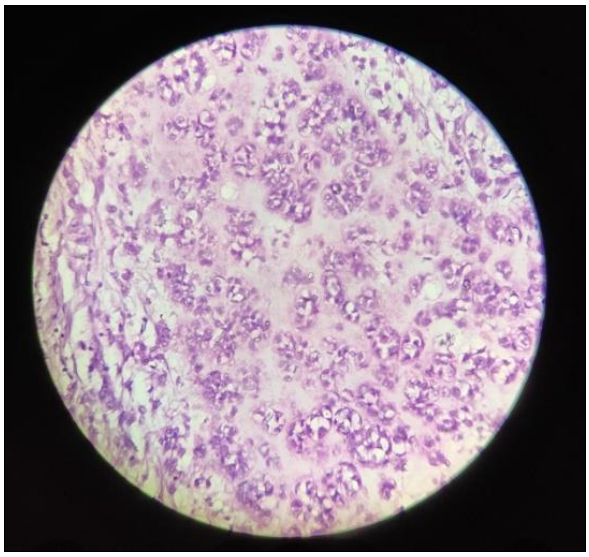

Fig 5: High power image: shows cartilagenous cells and chondromyxoid stroma

Histopathological examination shows, low power image: Multiple lobules composed of cartilaginous cells separated by fibrocollagenous septa & on High Power image: Cartilagenous cells and chondromyxoid stroma

Follow up

The postoperative course was uneventful. The patient remained overnight in hospital. He was discharged on simple oral analgesic.

Three months later, wound was found to be healthy with normal functions of the finger and hand.

Discussion

As chondrosarcoma is common tumor. Extra Skeletal Chondroma is a rare benign lesion that to arising from soft tissue, without continuity to the periosteum [7]. The common site for ESCs is the upper limbs (72%) especially the hands [8]. There are many theories trying to explain the origin of ESC, as some authors think that it originates from the pluripotent cell of the tenosynovium, while others state that it may be derived from metaplasia of the tendon sheath [4]. In this case, the lesion was completely surrounded by muscle fibers away from the nearby tendons. In the literature, the lesion has been described as a well demarcated one, sometimes lobulated and one to two centimeters in size [9]. It is a slowly growing, painless, single or multiple mass [7]. Peters *et al*. reported a case of ESC with a usual presentation of rapid growth with intractable pain [10]. Although this lesion had a painless, slowly growing features and well-defined border with a lobulated surface, the size was much larger (about 10-15 cm) than been described previously. Ultrasound examination is usually the starting point in work up of swelling, however MRI is the method of choice for evaluation of ESC. It defines the contour, the extent, the shape, calcification and the relation of the tumour to the surrounding structures. Sometime FNAC or core needle biopsy is required to determine the exact diagnosis preoperatively, especially when the physician worried about malignancy [11]. Even by MRI, this case was query regarding the benign nature of the lesion, the core needle biopsy was not conclusive as well. Histopathological examination confirmed the diagnosis of ESC.

As the current case revealed, the histopathological findings show cartilaginous cells with centralized zones of cellular poly- morphism and proliferation of giant cells on the tumour margin. Occasionally, this tumour may present atypical morphologic characteristics, which makes the differential diagnosis with malignant lesions difficult [8]. Complete excision is a preferred mode of therapy [12]. How- ever local recurrence rate has been reported to occur in 15-18% of the cases, therefor frequent follow up is recommended [4]. In fair of being malignant, this case underwent total excision of the mass with the surrounding normal muscles to have adequate free margins.

Conclusion

ESC is a rare benign lesion, although mostly affects the upper extremities, it can be found anywhere in the body, histopathological examination of the specimen is the diagnostic method of choice, and interpretation of microscopically is challenging.

Conflict of Interest

Not available

Financial Support

Not available

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