

Case Report**Fibro-osseous Pseudo tumor of digits of small bones- A diagnostic dilemma.***Roobina Khan^{1*}, Murad Ahmad^{2*}, Mariam Shadan^{2*}, Lalit Mohan Bariar^{3**}*

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ABSTRACT: Fibro-osseous pseudotumor of the digit is a rare benign ossifying fibro-proliferative lesion. The current case is about a 32 years old man who presented with a smooth soft tissue swelling on the distal part left thumb. Excision biopsy was performed and the histopathology depicted a circumscribed soft tissue swelling composed of randomly arranged plump fibroblasts with foci of bony trabeculae lined by osteoblasts. A fragment of cartilage and evidence of enchondral ossification was also present.

Key Words: Fibro-osseous pseudotumor, FOPD, thumb.**Introduction**

Fibro-osseous Pseudo tumor (FOPD) of digits is a rare localised self-limiting subcutaneous lesion. It comprises of fibroblastic proliferation with reactive or metaplastic osteoid formation.^[1] FOPD usually occur in young adult females with pain and swelling of a finger.^[2] Common mimickers are myositis ossificans^[3,4], turret exostosis^[5], extraskeletal osteosarcoma^[3] and bizarre parosteal osteochondromatous proliferations (Nora's lesion).^[6] Some time it grows rapidly along with cytological atypia and high mitosis rate, raising the clinical suspicion of malignancy.^[1,7] Correct diagnosis and recognition of the benign nature of this condition is thus important to avoid amputation of a major digit . Here, we are report a case of FOPD in a 32 years old man who presented with a smooth soft tissue swelling associated with pain on the distal part of left thumb.

Case report

The patient, a 32-year-old man, presented with a tender nodule on the distal aspect of the left thumb, slowly growing in size over a 6-month period. Patient was afebrile with negative history for trauma and weight loss. Blood investigation such as complete blood count, ESR and C-reactive protein were within normal limits. Examination revealed a soft to firm ,well defined, smooth, tender and mobile nodule measuring 2.5 x 2 x 1 cm in size (Figure 1).



Figure 1- Fusiform mass on left thumb

Posterior- anterior and lateral X ray showed no bony involvement (Figure 2).



Figure 2: Soft tissue lesion without cortical involvement

In view of the history and appearance, a clinical diagnosis of neurofibroma was made. Being a painful lesion, angioliipoma was also considered in the differential diagnosis. A complete excisional biopsy was performed, followed by electro-cautery of the lesion base.

On gross examination tumor was whitish in color , firm in consistency measuring 2.5x2x1 cm. Cut section was solid, creamish white and homogenous(Figure 3A and 3B) .



Figure 3(A and B): globular firm white swelling measuring 2.5x2x1 cm with cut surface showing homogenous solid,

creamish white architecture.

The mass was bisected and the entire tissue was sampled for histopathological examination. H&E stained sections of the lesion showed bony trabeculae, rimmed by bland-appearing osteoblasts. Areas of cartilage formation and enchondral ossification of varying maturity lying within fibro-collagenous stroma were also present along with scattered stromal mitoses, foci of myxoid stroma and lymphocytes (Figure 4).

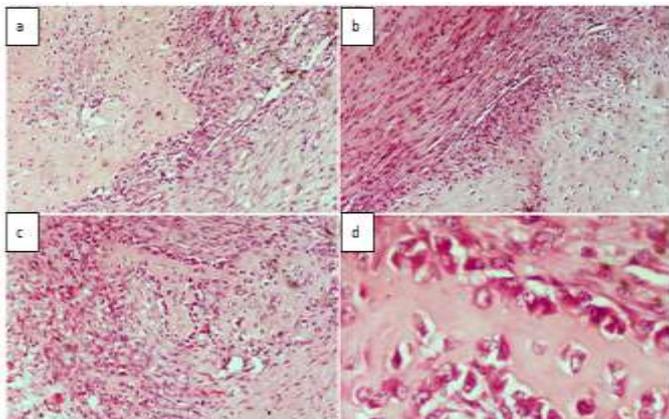


Figure 4 (a, b, c, d): H&E stained sections of the lesion showed bony trabeculae, rimmed by bland-appearing osteoblasts. Stroma is fibro-collagenous and shows scattered stromal mitoses and lymphocytes. (H&E, 4x, 10x and 40 x)

A zonation pattern was not seen. A final diagnosis of fibro-osseous pseudo-tumor of the digit (FOPD) was made.

Discussion

Fibro-osseous pseudo-tumor of the digit is a benign lesion characterized by fibrous proliferative and heterotrophic ossification of the skin and superficial soft tissue.^[1] Other authors had reported this entity by different name such as florid reactive periostitis, parosteal fasciitis and fasciitis ossificans.^[7,8,9]

This lesion commonly affect young adult female, presenting as painful sometime erythematous, non specific fusiform mobile nodular growth in the soft tissue of proximal phalanges and less commonly toes.^[1,4]

In our case it was seen in thumb of a male patient. Fibro-osseous pseudo-tumor of the digit is regarded as a reactive process and trauma is thought to play some role in its pathogenesis, being reported as a preceding event in between 11 to 43 percent of cases.^[1,2,3]

X ray may show an irregular soft tissue mass often showing calcification/ossification with no connection to underlying bone, rarely it may erode cortical bone.^[1,8] Involvement of periosteum or cortex raises the suspicion of malignancy and can be misdiagnosed as a malignant lesion.

On histopathology the variably florid spindle cell proliferation is myofibroblastic in nature as evidenced by immunohistochemical features of smooth muscle actin positivity and desmin negativity, whereas the osseous component represents a metaplastic phenomenon.

The histopathological nature of the lesion may be mimicked

by several other entities, both benign and malignant. Myositis ossificans (MO) is most similar to FOPD and also features a fibroblastic proliferation with osseous metaplasia, often arising after trauma.^[2,3] Some authors consider MO and FOPD as closely related entities while others regard them as being within the same disease spectrum but with occurrence in different locations.^[1,2,3,4] Myositis ossificans typically occurs in the more proximal aspect of the limbs and involves the deeper soft tissue compartment. Histopathologically, it is characterized by a zonation pattern, featuring a fibroblastic tissue core or base and a superficial rim of osseous tissue. Such a zonal organization may or may not be present in FOPD.^[1,4]

Subungual exostosis can appear clinically and histopathologically very similar to FOPD, except for the presence of connection to the underlying phalangeal bone, the presence of bone marrow tissue, and the feature of an overlying fibro-cartilaginous cap.^[9]

Extra-skeletal osteosarcoma is a rare malignant tumor that may present a diagnostic pitfall.^[2] It is typified by being destructive and more often localized to the deep soft tissue. The neoplastic spindle cells in between the osseous tissue show marked nuclear atypia with mitotic activity.

FOPD have variable clinical presentation and radiological findings as in our case clinical diagnosis differential neurofibroma and angioliipoma were made. We kept angioliipoma because on x ray no considerable soft tissue or calcification was seen

Fibro-osseous pseudotumor of the digit has an excellent prognosis following complete excision with low risk of recurrence (between 0-14% in various series).^[1,3] No cases of malignant transformation or reports of metastases are on record.^[1,8]

Therefore, diagnosis of the lesion requires a high index of suspicion and correlation of physical examination and radiographic findings with histologic findings. Correct diagnosis and recognition of benign nature of the disease help us in saving the patient from extensive surgery.

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