

Synovial Osteochondromatosis with Lipomatosis - A Rare Case Report

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Abstract: Synovial lipomatosis is a rare, synovial based disorder that typically affects a single knee. Synovial lipomatosis (SL) is a rare, articular condition of unknown etiology, characterized by hypertrophic fat infiltration beneath the synovium. The proliferative synovium is filled with mature adipose cells. Synovial osteochondromatosis is a rare disease that creates a benign change or proliferation in the synovium or joint lining tissue which changes to form bone-forming cartilage. Magnetic resonance imaging and synovial biopsy helps in establishing this diagnosis. We are presenting this case report showing both the components i.e Synovial Lipomatosis with Osteochondromatosis. Only few of the cases are reported with this diagnosis, however both the components like Synovial Osteochondromatosis with Lipomatosis has not been reported so far, to best of our knowledge.

Keywords: Synovial Lipomatosis, Synovial osteochondromatosis, Bone forming cartilage

1. Case History

25 years old female, presented with pain and swelling over anterior aspect of right knee since 10 years, gradually increasing in size. History of trauma at same site 14 years back. For this patient underwent surgery but not relieved.

Local examination- 12cm x 6cm sized swelling, tender, immobile and firm too hard in consistency. General, systemic examination and routine investigation did not reveal any abnormality. This case is a rare presentation of periarticular mass that presented as gradually progressive swelling of the knee joint which persisted for many years. Removal of loose bodies with synovectomy was done.

2. Radiological Features



Figure 1: X-ray of affected knee joint (AP view) – Intra-articular growth identified

Contrast Enhancing MRI right knee joint-A large lobulated heterogeneously enhancing calcified lesion at suprapatellar region with quadriceps tendon and moderate

suprapatellar effusion. **Suggestive Of Extrasosseous Osteochondroma.**

Gross Examination:



Figure 2 & 3: Large irregular lobulated mass of size- 10x8x5cm, glistening white and firm to hard in consistency

Volume 10 Issue 2, February 2021

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along with flap of synovium appears tongue like protusion.

Cut surface - variegated yellowish- white, soft to firm, glistening white cartilaginous and large bony areas

Microscopic features:

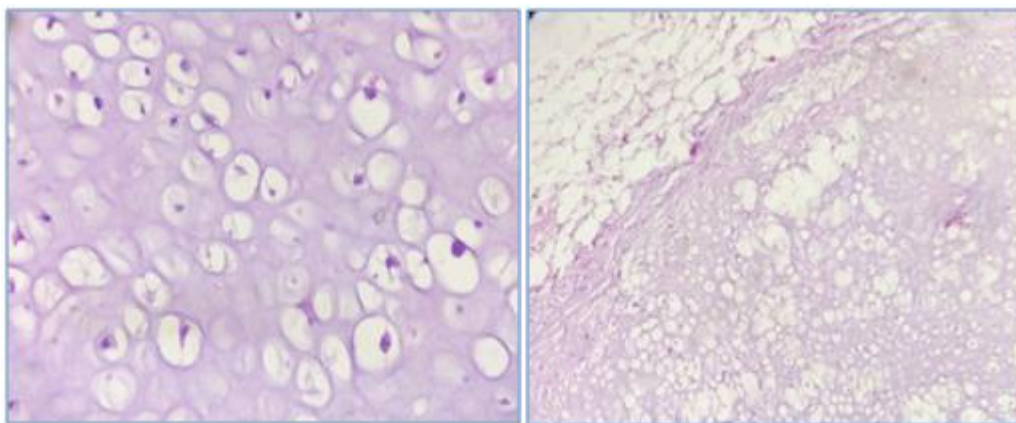


Figure 4: (H&E, X100) Cartilaginous area (Chondroid metaplasia) with lipomatosis

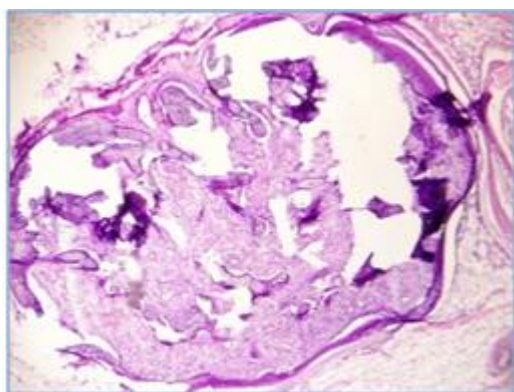


Figure 5: (H & E, X400) Osteoid metaplasia

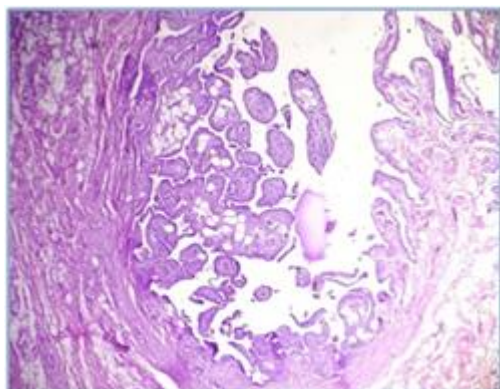


Figure 6: (H&E, X100) Proliferating synovium

On Microscopic Examination: On studying multiple sections, there were large area of synovial membrane proliferation. There were areas showing benign chondroid and Osteoid metaplasia with Lipomatous areas. No atypia or granulomas could be identified on multiple sections studied. Final impression given was - Synovial Osteochondromatosis with Lipomatosis.

3. Discussion

Synovial Osteochondromatosis (SOC) is a rare disease that creates a benign change or proliferation in the synovium or joint lining tissue, which changes to form bone forming cartilage. In most occurrences, there is only one joint

affected, the knee, the hip or the elbow. Rarely involves the Temporomandibular Joint.⁵

It is characterized by Cartilaginous or osteocartilaginous loose bodies formation, usually in large number (varying in size) in the joint space without an apparent underlying injury to the cartilage or synovium.² It can be Primary or Secondary. Primary is uncommon, have unknown etiology and is aggressive in behaviour. Secondary cases occurs in older patients previously affected by joint disease such as osteoarthritis.⁵

It is characterized by synovial membrane metaplasia, hyperplasia and hyaline or myxoid change. Loose bodies develop as a result of the proliferation and fragmentation of the synovial lining of the joint, bursa or tendon sheath.¹ Sometimes, osteolytic activity results in spontaneous regression. Synovectomy gives better results as compared to loose body removal alone.⁴

Synovial Lipomatosis also called Hoffa disease, villous lipomatous proliferation of synovium. This is considered a pseudotumour of synovium with distinct histomorphology, possibly due to inappropriate fat deposition and degenerative articular diseases of joints. It commonly affects Males, with unknown etiology. Grossly there occurs enlargement of intrapatellar fat pad with pain in anterior compartment of knee. Synovium becomes papillary, yellow and fatty. On microscopy there occurs synovial hyperplasia with unremarkable fat extending to synovial lining with or without occasional chronic inflammatory infiltrates. The best treatment modality considered is Arthroscopy and excision.⁶

4. Conclusion

Synovial lipomatosis may mimic tumorous, lesion-like synovial lipoma or hemangioma and its distinct histomorphology helps in distinguishing it from these lesions. It possibly represents a secondary phenomenon following the degenerative process of articular disease of the joints.

Synovial osteochondromatosis is a rare disease that creates a benign change or proliferation in the synovium or joint lining tissue which changes to form bone-forming cartilage.

Being rare entities one should keep these above diagnosis in mind.

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