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"PAROSTEAL LIPOMA"– A RARE PRESENTATION AND SURGICAL CONSIDERATION – CASE REPORT

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ABSTRACT **Background:** Parosteal lipomas are rare benign neoplasms derived from mature adipose tissue connected to the periosteum. They account for less than 0.1% of all primary bone tumors and less than 0.3% of all lipomas. These tumors typically present in the 40-60 years age group and are found to affect both sexes equally. Parosteal lipomas are usually located in the bony cortex below the periosteum. Its clinical similarity to other bone and soft tissue tumors makes it difficult to diagnose sans invasive investigations. **Case Presentation:** A 50-year-old female presents with swelling over right hand in the hypothenar eminence for 2.5years. No history of similar lesions elsewhere in the body. Wide local excision was done under the suspicion of a bizarre parosteal osteochondromatous proliferation or Giant cell tumor. **Conclusion:** Parosteal lipomas are difficult to diagnose clinically as it exhibits similarities to various bone and soft tissue tumors hence imaging and histopathology investigations are necessary. The treatment of choice is wide local excision, removal of tumor in toto to prevent recurrence.

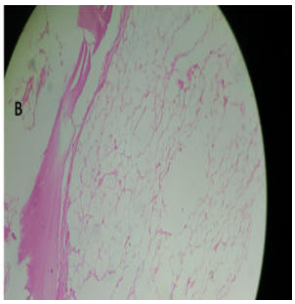
KEYWORDS : Parosteal Lipoma, Giant cell tumor

INTRODUCTION:

Parosteal lipoma was first described by Dr. Seerig as periosteal lipoma in 1836. The term parosteal lipoma was populairsed by D'arcy Power in 1888 and is now preferred over periosteal lipoma as periosteal tissue does not contain adipose cells.[1][5]The most common predilection sites are the femur, proximal part of the radius, humerus, tibia, clavicle, and pelvis. In rare cases, the ribs can be affected too.[1] It most commonly affects individuals above 40 years of age and equally occurs in both sexes.[3] Most cases of parosteal lipoma are asymptomatic, in event of neurovascular structure compromise by the growing mass, the patient may complain of sensory disturbances and weakness.[3]

Case Presentation:

50-year-old female presented with a swelling over her right hypothenar eminence for 2.5 years. She is a known case of hypertension on medication. There is no history of trauma in the affected region. On examination: An 8x6cms solitary swelling, firm in consistency with an irregular surface and no associated deformities was noted. Sensory & motor functions were intact. On MRI- An ill-defined exophytic lesion of size 4x5cm was noted arising from lateral aspect of right 5th metacarpal –between abductor digiti minimi and palmar interossei- Possibility of bizarre parosteal osteochondromatous proliferation or Giant Cell Tumor was given. A wide local excision was done and sent for histopathology. On gross examination: Received grey white bony mass with attached soft tissue mass altogether measuring 5x4x3cm. On microscopy: A benign neoplasm arising from parosteum, composed of mature adipocytes admixed with bony trabeculae rimmed by osteoblasts was noted– Hence the diagnosis of Parosteal Lipoma was made.



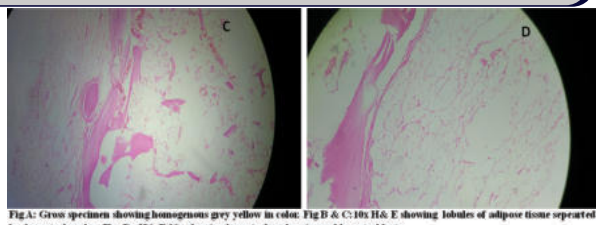


Fig A: Gross specimen showing homogenous grey yellow in color. Fig B & C: 10x H& E showing lobules of adipose tissue separated by bony trabeculae. Fig D : H& E 20x showing bony trabeculae rimmed by osteoblasts.

DISCUSSION:

Lipomas are the most commonly encountered soft tissue tumors, Parosteal lipomas account for less than 0.3% of all lipomas.[1] There are two theories of pathogenesis for parosteal lipomas:- (1) Tumors arise from the differentiation of stem cells derived from adipose tissue; (2) Tumor is derived from secondary metaplasia of fibroblasts due to recurrent trauma. In this case it seems to be former due to lack of history of recurrent trauma.[1] Lipomas of the bone are divided according to their location with respect to the bone, Parosteal if present on the surface and intraosseous if present within the bones.[3]

Lipomas found in adults often consist of chromosome 12q13～q15 aberration, which causes rearrangement in the HMGA2 gene, causing its reactivation. HMGA2 gene plays a major role in mesodermal lineage proliferation during embryogenesis and is usually not expressed in adulthood.[2]

According to the WHO Classification of soft tissue tumors 2020, Conventional lipomas are comprised of mature adipose tissue and is located in the subcutaneous region (Superficial), some arise within the skeletal muscle (intramuscular), on the surface of the bone (parosteal) or within tendon sheaths.[2]

On X-ray, parosteal lipomas appear as well circumscribed radiolucent fat containing masses lying in relation to the periosteum. Reactive bone changes may be seen surrounding the parosteal lipoma. On NCCT, they appear as well demarcated lesions of low density (-120 to -60 HU) and on MRI, the masses appear as lesions with signal intensity akin to subcutaneous fat.[3]

CONCLUSION:

The approach to diagnosing a parosteal lipoma requires

multidisciplinary approach from the out-patient department during presentation to imaging, resection and histopathological examination. CT and MRI are useful in differentiating osseous projections in parosteal lipomas from osteochondromas as medullary continuities with adjacent bone is absent in the former. [3] Histopathological examination gives the final diagnosis post-excision. It is important to distinguish between this and other bone and soft tissue related tumors such as sarcomas, osteochondromas, liposarcomas and chondrosarcomas as parosteal lipomas do not recur after complete excision of the tumor. [1]

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