

Case Report

Intramuscular spindle cell lipoma/pleomorphic lipoma unusual site fore arm

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ABSTRACT

Pleomorphic lipoma/ spindle cell lipoma accounts for 15 % of lipoma within extremities, confining to the superficial plain comprising lower dermis and subcutaneous tissue. Intramuscular presentation in extremities is a rare presentation. Here is a case of deep seated pleomorphic lipoma, of forearm, both on fine needle aspiration, biopsy and IHC confirmation. 100% of benign cases of lipoma are positive for CD 34, as stated in many studies and was also positive in our case.

Keywords: CD34, Forearm, Intramuscular, Pleomorphic lipoma

INTRODUCTION

Lipomas are the most common tumours of mesenchymal origin in human body. Pleomorphic lipoma/ spindle cell lipoma accounts for 15 % of lipomas within extremities, confining to the superficial plain comprising lower dermis and subcutaneous tissue. Other sites are nose, cheek, forehead, chin, anterior scalp, lip and ear.¹⁻² Also there are case reports of the same in tongue and oral cavity.³⁻⁴ CD34 is a marker for hematopoietic and mesenchymal stem cells and its presence is physiologically detectable in the perivascular environment of many tissues of post-natal organisms. 100% of benign cases of lipoma are positive for CD 34, as stated in many studies.⁵ Here we present to you a case of deep seated pleomorphic lipoma, of forearm, both on fine needle aspiration, biopsy and IHC confirmation.

CASE REPORT

A 58-year-old male presented to the OPD (Dept of Surgery, MOSC medical college, Kolenchery, Kerala, India) with a localized painless swelling in the upper one

third of left forearm noticed over the past 4months, gradually increasing in size and restricting elbow movements. Clinical examination revealed a 5cm x 4 cm mobile, non-tender, soft, fluctuant, non transilluminant lump over the left forearm. USG fore arm-revealed, an intramuscular lipoma of the upper 1/3rd of forearm.

The medical and family histories for the patient were unremarkable. An FNA was performed and we received scanty blood mixed material. The smears showed diffuse mature adipocytes among spindle cells with bizarre hyperchromatic nucleus and spindle cytoplasm. Many multi nucleated giant cells were seen, having bizarre atypical nucleus. Background showed scattered inflammatory cells and RBCs (Figure 1).

An excision biopsy was performed. Grossly the lesion was well defined with attachments to the muscle focally. Outer surface was smooth, glistening with few engorged vessels along with few muscle fibers. Cut surface showed homogenous, pale tan solid lesion with myxoid areas (Figure 2).

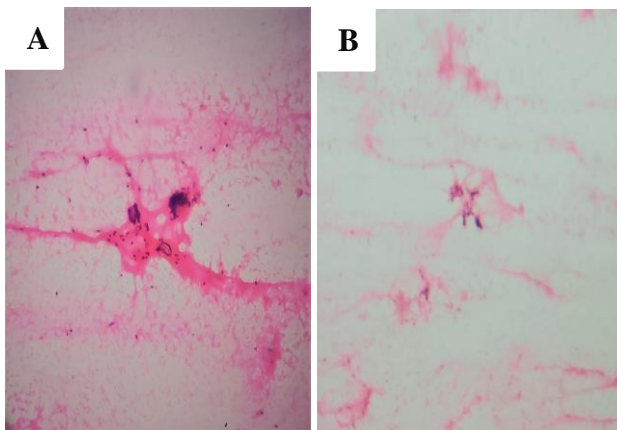


Figure 1: A) Paucicellular smears showing pleomorphic giant cells (florette cells). B) background shows inflammatory cells.

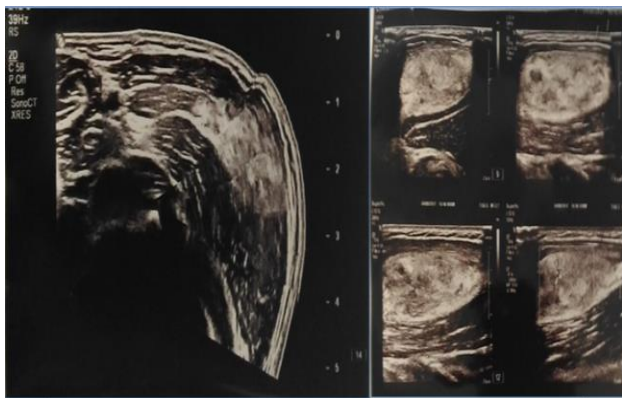


Figure 2: USG forearm: well circumscribed heterogeneously hyperechoic lesion within the intramuscular plain.

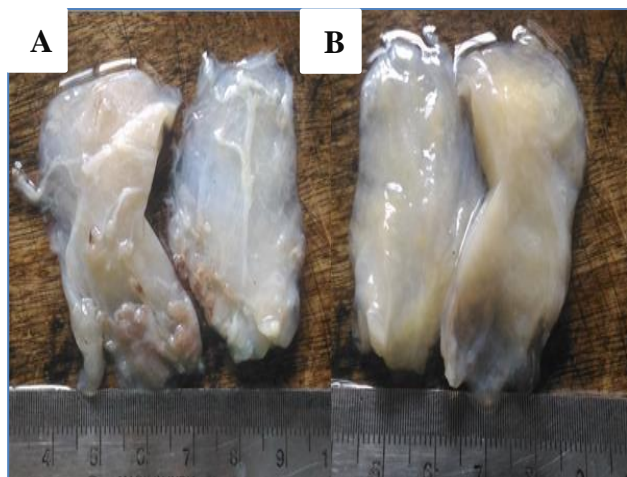


Figure 3: (A) Resected specimen: outer surface. note the muscle attachment; (B) showing cut surface, note the myxoid nature.

The sections were routinely processed and stained with hematoxylin and eosin, as well as with anti-CD34

(pathinsitu), antibody. Hematoxylin and eosin staining revealed the proliferation of diffuse mature adipocytes among spindle cells in a lobular configuration. The tumor cells were bland with inconspicuous nuclei within a fibroblastic stroma that exhibited focal myxoid changes. Characteristic floret cells were seen. No mitotic activity or necrosis was observed, and few mast cells were detected (Figure 2). Tumor cells were positive for expression of CD34 (Figure 3).

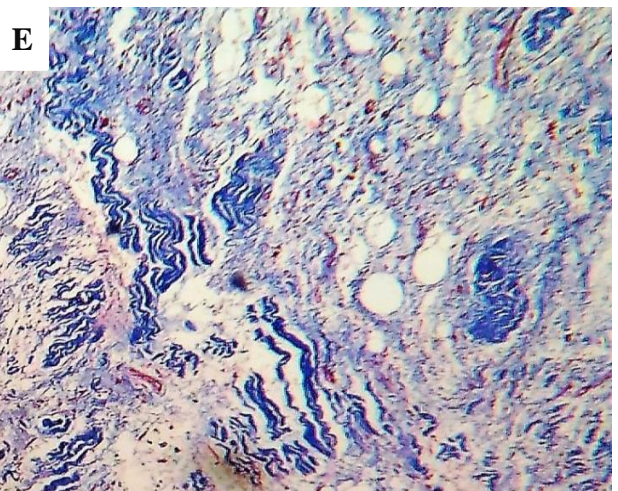
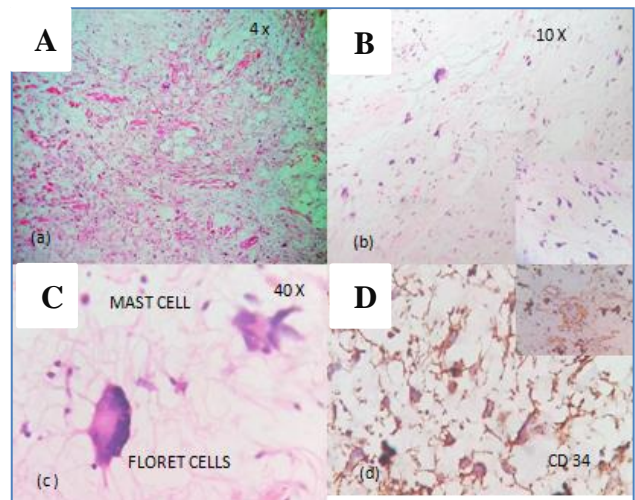


Figure 4: (A-C) H & E sections showing diffuse mature adipocytes among spindle cells in a myxoid stroma, inset shows floret cell; (D) IHC for CD 34- strong cytoplasmic and membrane positivity; (E) Masson Trichrome showing ropey collagen.

DISCUSSION

Pleomorphic lipoma is relatively a rare adipocytic neoplasm, occurring predominantly in elderly males usually within the subcutaneous tissues of the neck or shoulder. To the best of our knowledge, there are only five cases reported till date on pleomorphic lipoma with an intramuscular location.⁵ Men are more prone and

within the age group 50 -70 years.⁶ Most of the published cases usual site being the extrimities is within the superficial plain that is subcuatenous plain and lower dermis. However, few unusual sites have also been reported such as the tonsillar fossa, orbit, and tongue amongst which intramuscular compartment forms a minority.^{7,8} Our case is also a 58-year-old male patient. The lesion presented as a painless mobile soft swelling, which can be mistaken for a lipoma. On clinical examination, lesion is well circumscribed. On gross examination, the lesion was well defined with attachments to the muscle focally. Outer surface is smooth, glistening with few engorged vessels along with few muscle fibers. Cut surface showed homogenous, pale tan solid lesion with myxoid areas. Microscopically, instead of the mature adipocytic cells, the lesion shows an intimate admixture of variable-sized fat cells, spindle cells and bizarre, pleomorphic, multinucleated giant cells (florete cells) against a myxoid back ground. The FNA in our case, showed many multinucleated cells as well as isolated bizarre cells. Very few articles outline a cytological picture of a pleomorphic lipoma.⁹⁻¹² Cytology in our case shows clear giant cells. No atypical lipoblasts or arcuate capillary network was seen.

The differential diagnosis must be given with caution and with clinico-radiologic correlation because pleomorphic lipomas can mimic other benign and malignant soft tissue tumors such as giant cell fibroblastoma, myxoid liposarcomas, myxoid fibrosarcomas, or even anaplastic carcinomas. Myxoid liposarcoma involves the deep soft tissue of the extremities with a peak age incidence in the 4th or 5th decade. Cytologically, these tumors have myxoid background matrix with many univacuolated lipoblasts or multivacuolated lipoblasts and a characteristic rich plexiform vascular meshwork and they usually lack strong CD34 expression. In well differentiated liposarcomas, only 15% has been documented in upper limb and are usually negative for CD34. Literature says, histologically, they lack florete cells. Pleomorphic lipoma has a benign course and complete excision gives good results. This case is being presented due to the unusual location and presentation till date this is the first case to be reported in forearm and with an intramuscular presentation.¹³

CONCLUSION

There is a growing awareness of the existence of a benign giant cell-rich tumor at unusual anatomic sites. Pleomorphic lipomas are “clinicopathologic” entities, which necessitate an attention to details such as the age and sex of the patient, the anatomic plane of the tumor, and in this case the particular giant cell-rich morphology. Clinical correlation along with radiology and pathology is necessary to assure the accurate diagnosis of rare cases at rare sites and must be a practice in medical centres. Cytology is a guide to the pathologist and such atypical

lesions with giant cells must be reported with extreme caution not as to over diagnose the disease.

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