Case Report

Pathology Section

Pleomorphic lipoma : A cytological diagnostic dilemma

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ABSTRACT

This is a case report of a seventy year old male with low back swelling. Fine needle aspiration cytology was reported as spindle cell sarcoma. Wide excision sample sent to histopathology showed predominant adipocytes with few pleomorphic bizarre cells, floret like giant cells and ropy collagen bundles. Reevaluation of cytological smears dawned on us authors the diagnostic pitfall in Pleomorhic lipoma.We present this rare case in view of minimizing radical surgeries in such deceptive benign lesions.

Key Words: Lipoma, Needle aspiration, Biopsy

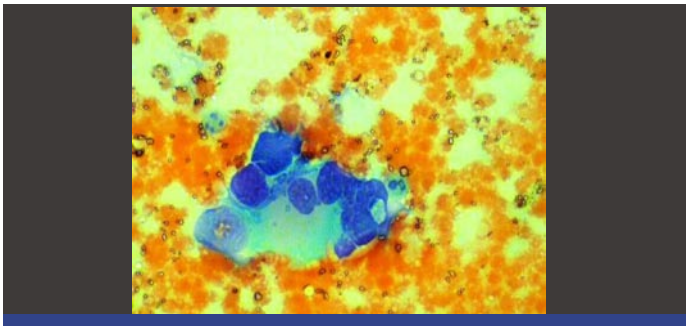
INTRODUCTION

Most lipomatous tumours of subcutis behave as benign neoplasms. However, occasional long standing lipomatous tumors can mimic malignancy in fine needle aspiration cytology [1].

Pleomorphic lipoma is one such benign lesion of subcutaneous tissue that has to be sharply differentiated from sarcomas . Pleomorphic lipoma is an entity which must be added to the growing number of pseudosarcomatous lesions of soft tissue [1].

CASE HISTORY

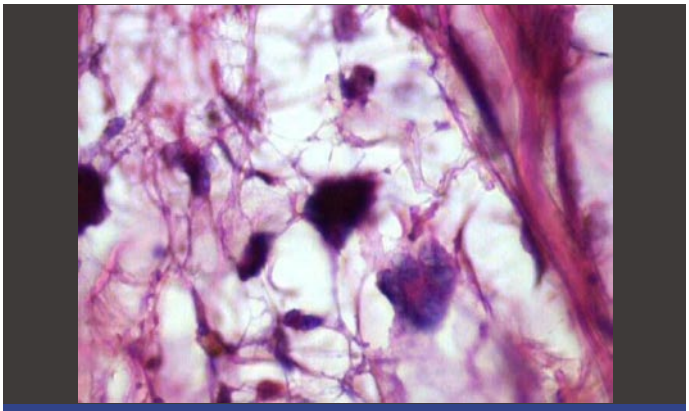
A seventy year old male presented with slow growing mass in the low back, since two years. Patient complained of aching pain radiating to lower extremities since two weeks. Appeared fixed to underlying tissue, firm to hard in consistency.Fine needle aspiration cytology (FNAC) was performed using 24 gauge needle, 20ml disposable syringe. Wet smears stained with papanicolaou stain, air dried smears stained with giemsa. Pap stained lesions showed few spindle shaped cells, occasional pleomorphic bizarre cells and numerous giant cells with pleomorphic nuclei. A cytological diagnosis of spindle cell sarcoma was made. [Table/Fig 1]



[Table/Fig 1]: Multinucleated floret giant cell in FNAC(40 X giemsa stain)

Subsequently whole body computed tomography (CT) scan was done to look for invasion metastasis, which was negative. Wide excision specimen was sent to histopathological examination. Grossly elliptical skin covered mass measuring 15x 10 x10 cms was received. Outer surface lobulated and congested, gritty to cut through, cut surface yellowish and grey areas with focal myxoid areas.

Microscopy showed predominantly lipomatous tumour with ropy collagen and cellular areas composed of pleomorphic bizarre cells, along with floret like giant cells reminiscent of petals of a flower the cytoplasm of which was intensely eosinophilic with hyperchromatic nuclei [2]. [Table/Fig 2] The diagnosis of pleomorphic lipoma was confirmed. [Table/Fig 2]



[Table/Fig 2]: Ropy collagen with floret giant cell in tissue section (40 X Hematoxylin & Eosin stain)

DISCUSSION

Benign and malignant lipomatous subcutaneous tumours are often target of FNAC in preoperative diagnosis. The diagnostic challenge in FNAC of lipomatous tumours are atypical lipoma and well differentiated liposarcoma [3].

Pleomorphic lipoma or giant-cell lipoma is an entity affecting predominantly elderly and middle-aged men. The neck and shoulder region account for 65% of cases, the back about 11% cases. The other rare sites include upper and lower extremities, chest wall, axilla and buttocks

Cytomorphologically fragments of mature fat tissue and numerous dispersed, lobulated, large, hyperchromatic bizarre nuclei with stripped cytoplasm along with foamy macrophages are seen. Foamy macrophages can mimic lipoblasts making diagnosis a bit more difficult. These features of pleomorphic lipoma form a potential diagnostic pitfall.

At one time pleomorphic lipoma along with spindle cell lipoma was grouped under atypical lipoma in view of its cellular characteristics. The clinical histological and cytogenetic features justified considering it as a different entity. Clinically pleomorphic lipoma poses an excellent prognosis with just local excision adequate for cure. The characteristic location in the back and subcutaneous tissue with circumscription, absence of metastasis and infiltration on CT

scan suggest a benign behavior. Histopathologically mature adipose tissue with floret like giant cells, cells with pleomorphic nuclei and abundant vacuolated cytoplasm, ropy collagen, and absence of lipoblasts lead us to the diagnosis of pleomorphic lipoma. Kusum Kapila et al; reviewed 51 benign lipomatous tumours, out of which only one turned out to be atypical lipoma in their study [3]. Ultrastructurally it is proposed that both the spindle cells and pleomorphic multinucleated cells that characterize these tumors are prelipoblastic mesenchymal cells [4]. Cytogenetic study revealed pleomorphic lipomas had hypodiploid stemlines with monosomy 16 or unbalanced aberrations leading to loss of 16q13-qter [5].

CONCLUSION

In conclusion, the cytodiagnosis of malignant lipomatous tumours prerequisites the unequivocal presence of lipoblasts. In cases otherwise, an interdepartmental discussion involving the surgeon, radiologist, and pathologist is a must. Clinically a long standing subcutaneous swelling in an elderly individual, radiologically well circumscribed lesion, absence of infiltration into adjacent tissue with no evidence of metastasis, should be confirmed by a cytopathologist for a diagnosis of pleomorphic lipoma. Thus a cytopathologist can contribute in reducing the patient morbidity and extensive radical surgeries.

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