

Case Report

Cytopathological Diagnosis of a Rare Entity– Low Grade Myxofibrosarcoma and Histological Correlation

Dr. Kangana Sengar^{1*}, Dr. Sneha S¹, Dr. S.M. Choukimath¹, Dr. Sujata S. Giriyan¹

¹Department of Pathology and transfusion medicine, Karnataka Institute of Medical Science, Hubli, Karnataka

***Corresponding author**

Dr. Kangana Sengar

Email: drksengar@gmail.com

Abstract: Myxofibrosarcoma, has been documented to share ultrastructural phenotypes with that of normal fibroblasts and has been classified as a distinct fibroblastic sarcoma. We present here a case of 58 years old male with complains of a slow growing swelling in the inguinal region since 2 years with associated groin hernia diagnosed as Low grade Myxofibrosarcoma on FNAC smears and later on confirmed by histopathological examination and immunohistochemistry. FNAC interpretation of myxofibrosarcoma can be challenging since the cytopathological findings overlap those of numerous other entities.

Keywords: Low grade myxofibrosarcoma, IHC, Myxoid neoplasms

INTRODUCTION

Myxofibrosarcoma, has been documented to share ultrastructural phenotypes with that of normal fibroblasts and has been classified as a distinct fibroblastic sarcoma. It typically presents on the extremities of adults in their 6th – 8th decades [1,2]. Though it is one of the most common subcutaneous sarcomas in adult, the cytopathologic features present on FNAC have only rarely been described in the literature [3].

CASE REPORT

58 years old male presented with a slow growing swelling in the inguinal region since 2 years with associated groin hernia. On examination 5x5 cm swelling firm in consistency, non tender, mobile was present in left inguinal region. USG revealed well defined subcutaneous soft tissue lesion in the left inguinal region ? Soft tissue neoplasm. FNA smears showed spindle cells arranged in sheets and clusters and cells having vesicular nuclei and moderate amount of cytoplasm with few single mildly pleomorphic cells in background of myxoid stroma with curvilinear blood vessels. Features were suggestive of myxofibrosarcoma (low grade) (Fig. 1, 2)

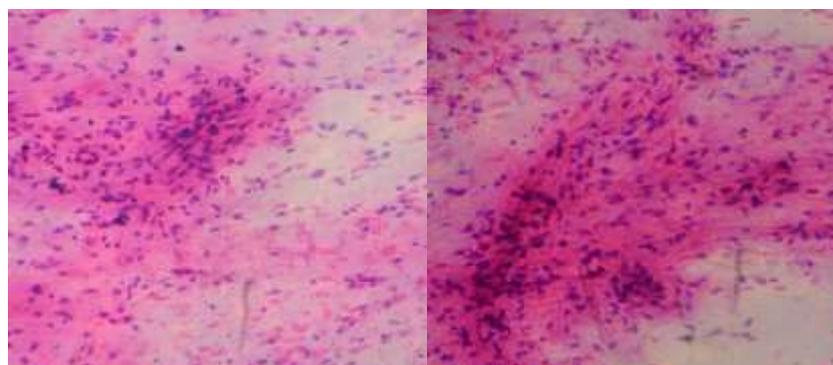


Fig-1: FNA smears showing predominantly myxoid stroma, curvilinear blood vessels and high cellularity (H & E, 100x) (H & E, 100x)

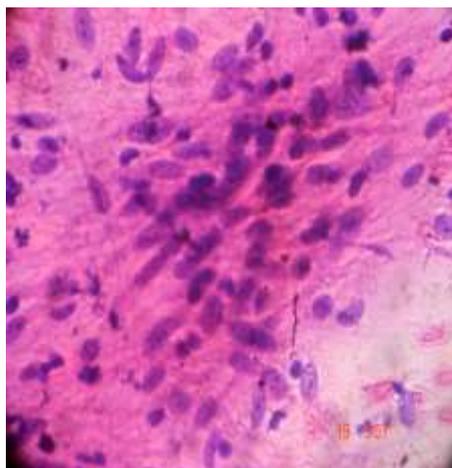


Fig-2: FNA smear showing mild nuclear pleomorphism (H & E, 400x)

Histopathological examination of the excised tumor was well circumscribed grey white mass with slimy surface and soft consistency. (Fig. 3) Microscopically, mild pleomorphic spindle cells displayed increased cellularity with cells in prominent

myxoid matrix associated with curvilinear blood vessels. (Fig. 4) The mitotic index was low. Features were suggestive of low grade myxofibrosarcoma. IHC-Tumor cells showed SMA positivity and were negative for Desmin, CD 34 and S100.



Fig-3: Well circumscribed grey white mass with slimy surface and soft consistency

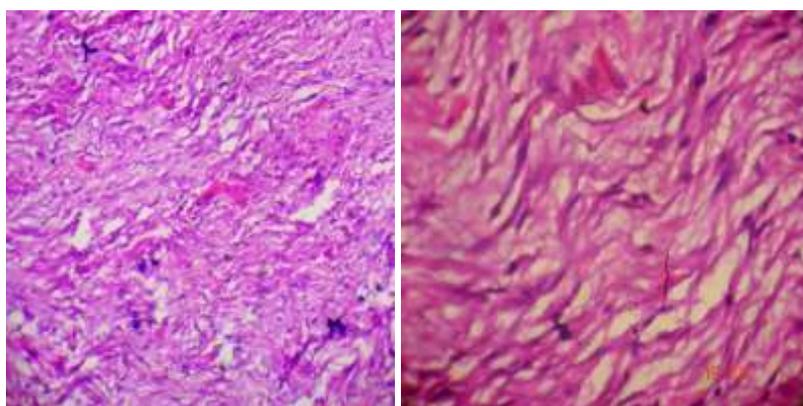


Fig-4: Photomicrograph showing mildly pleomorphic spindle cells and curvilinear blood vessels (H & E, 100x)

DISCUSSION

Sarcomas represent <1% of all malignancies. Term myxofibrosarcoma is used only for those tumours

that are predominantly (>50%) myxoid and of low nuclear grade [3]. Local recurrence seen upto 50- 60% of cases irrespective of grade. Whereas, none of the low

grade tumours metastasize [4]. The diagnosis of myxofibrosarcoma with FNAC or atleast placement of tumour into the spectrum of myxoid neoplasms can direct the initial clinical treatment and follow up [5]. All spindle cell tumors with myxoid changes, such as myxoid liposarcoma, myxofibrosarcoma, cellular myxoma, myxoid leiomyosarcoma and peripheral nerve sheath tumors should be considered in the differential diagnosis [6].

CONCLUSION

FNAC interpretation of myxofibrosarcoma can be challenging since the cytopathological findings overlap those of numerous other entities. However it is possible if the tumor is adequately sampled, with multiple passes from different areas. Combining morphology and molecular methods can make FNAC as an ideal initial diagnostic workup for myxofibrosarcoma.

REFERENCES

1. Fletcher CDM, Bridge JA, Hogendoorn PCW; WHO Classification of tumours of soft tissue and bone. 4th edn. Lyon: International Agency for Research on Cancer (IARC), 2013.
2. Weiss SW, Goldblum JR, Folpe AL; Enzinger and Weiss's soft tissue tumours, 5th edition. Mosby (St. Louis), 2007.
3. Akerman M, Domanski H; Soft tissues. In: Orell SR, Sterrett GF, editors. Orell and Sterrett's Fine Needle Aspiration Cytology. 5th edition. Edinburgh, Scotland: Churchill Livingstone, 2012; 387-400.
4. Olson MT, Ali SZ; Myxofibrosarcoma: cytomorphologic findings and differential diagnosis on fine needle aspiration. *Acta Cytol*, 2012; 56(1):15-24.
5. Wong NL, Di F; [Fine needle aspiration cytology of myxoid lesions of soft tissues: a study of 24 cases]. *Zhonghua bing li xue za zhi Chinese journal of pathology*, 2007; 36(9), 619-623.
6. Dawamneh MF, Amra NK, Amr SS; Low grade fibromyxoid sarcoma: report of a case with fine needle aspiration cytology and histologic correlation. *Acta Cytol*, 2006; 50(2):208-12.