Letter to Editor

Cytopathology of Intramuscular Myxoma

Shilpi Agarwal, Shivali Sehgal*, Preeti Rai, Priya Thomas

Department of Pathology, Lady Hardinge Medical College, New Delhi, India

Keywords: *Myxoma, Cytology, Intramuscular*

Sir,

Intramuscular myxoma (IMM) is a benign soft tissue tumor involving the musculoskeletal system (incidence of 0.1-0.13/100,000).[1] It usually occurs in large muscles of the thigh, shoulder, buttocks and arms. We report a case of an IMM diagnosed on fine needle aspiration cytology (FNAC).

A 30 year female presented with an upper back swelling which was gradually increasing in size for the past 3 years. It was painless, slightly mobile and fluctuant. There was no history of prior trauma. Ultrasonography revealed a well defined, cystic lesion in the trapezius muscle (with no increase in vascularity on Doppler). A diagnosis of an intramuscular space occupying lesion was made.

FNAC performed from multiple sites yielded 5ml of gelatinous aspirate; following which the swelling markedly decreased in size. Smears were hypocellular showing dispersed spindle and stellate shaped cells against a myxoid background. (Figure 1) Myxoid material can be seen in a variety of benign and malignant soft tissue lesions. Myxolipomas show presence of adipocytes while myxoid neural tumors have characteristic spindle cells with buckled nuclei. Myxoid liposarcoma contains lipoblasts and plexiform blood vessels; myxoid chondrosarcoma has presence of a chondroid matrix while low grade fibromyxoid sarcoma has cellular smears with spindle shaped cells. Myxofibrosarcomas have cells with nuclear atypia and curvilinear blood vessels. There were no adipocytes/lipoblasts/neural cells, no nuclear atypia/mitotic activity/necrosis and the presence of stellate cells against an abundant myxoid matrix suggested a diagnosis of myxoma.

Excision was performed and we received a globular, cystic, encapsulated soft tissue mass (diameter=4.5cm). On cutting open, it was unicystic and filled with mucoid material, wall thickness=0.2-0.4cm. No solid, fleshy or lipomatous area was identified. Sections showed an encapsulated lesion surrounded by skeletal muscle bundles; composed of spindle and stellate cells in a loose, myxoid matrix. Alcian blue staining (pH=2.5) was positive in the myxoid areas. There were no hypercellular areas, cellular atypia, mitosis or necrosis. Cells were CD34 positive and S-100 negative. The diagnosis was consistent with intramuscular myxoma. (Figure 2)

IMM are common in the 5th and 6th decade with slight female predominance.[1] They may attain a large size and mimick sarcomas clinically.

Myxoid material is a non specific, common finding in a large number of soft tissue tumors. Due to abundance of myxomatous tissue in IMM and poor cellularity, diagnosis on FNAC is difficult.[2] Silver et al found that only 3 out of 8 cases of IMM were correctly diagnosed on cytology.[3]

Caraway et al studied cytology of 10 cases of IMM and found presence of spindle, stellate and histiocytoid cells in an abundant mucoid matrix.[4] Akerman et al analysed 10 cases of IMM and found good cyto-histological correlation.[5]

IMM should be considered in the diagnosis of isolated firm to cystic lesions in the given clinical setting and be differentiated from other tumors.

The present case highlights the cytological features of different myxomatous lesions. It is suggested that proper sampling of the lesion from multiple sites be performed to reach a definitive diagnosis. Although, FNAC can be used as a preliminary investigative tool, confirmation is obtained only on histopathology.

***Corresponding author:**
Dr Shivali Sehgal, Department of Pathology, Lady Hardinge Medical College, New Delhi, 110001, India
Phone: +91-9818770874
E-mail: shivalisehgal@gmail.com,

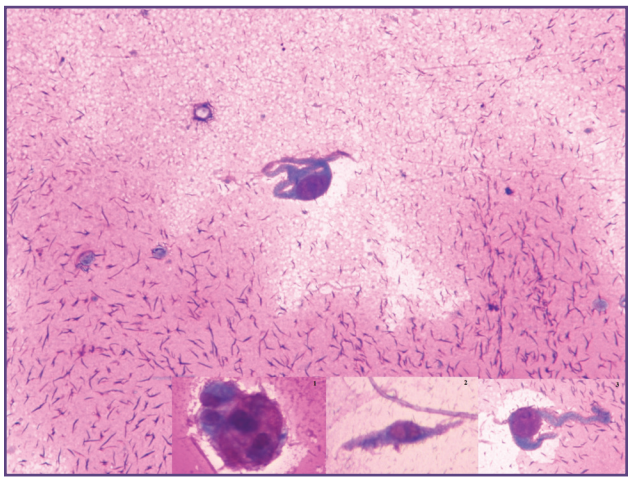

Fig. 1: Hypocellular smear showing presence of stellate shaped cell. (Giemsa, 100X) Insets show cluster of plump cells (1), scattered spindle cell (2) and a stellate cell (3) from left to right.

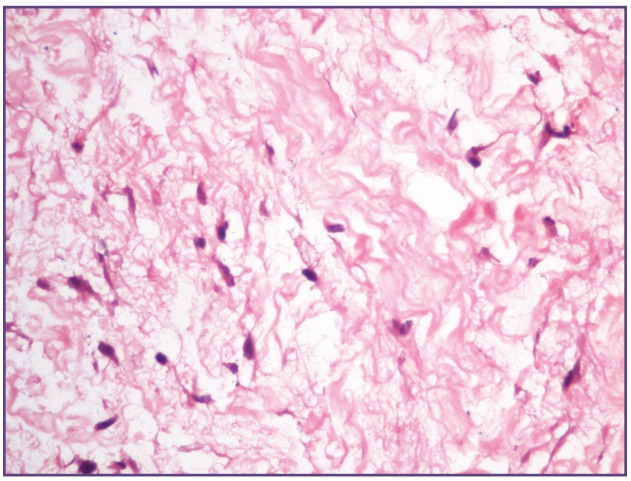

Fig. 2: Stellate cells dispersed in a loose, myxoid matrix. (H&E, 400X)

Acknowledgements
None

Funding
None

Competing Interests
None declared

Reference
1. Ozbek N, Danaci M, Okumus B, Gursel B, Cakir S, Dabak N et al. Recurrent intramuscular myxoma: review of the literature, diagnosis and treatment options. Turk J Cancer 2006;36:75.
2. Choukimath MS, Rangappa PK. Fine needle aspiration cytology of soft tissue tumors with special emphasis on grading of spindle cell sarcomas. International Journal of Applied Biology and Pharmaceutical technology 2012;3:47-60.
3. Silver WP, Harrelson JM, Scully SP. Intramuscular myxoma: a clinicopathologic study of 17 patients. Clin Orthop 2002;403:191-7.
4. Caraway NP, Staerkel GA, Fanning CV, Varma DG, Pollock RE. Diagnosing intramuscular myxoma by fine-needle aspiration: a multidisciplinary approach. Diagn Cytopathol 1994;11:255-61.
5. Åkerman M, Rydholm A. Aspiration cytology of intramuscular myxoma: a comparative clinical, cytologic and histologic study of ten cases. Acta Cytol. 1983;27:505-10.