Aspiration cytology of Intranal Palisaded Myofibroblastoma (Intranal hemorrhagic spindle cell tumor with amianthoid fibers): Report of two cases rarely seen on cytology

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Introduction

- Intranal Palisaded Myofibroblastoma (IPM) is also known as intranal hemorrhagic spindle cell tumor with 'amianthoid fibers'.
- It is a benign, rare & one of the handful of primary mesenchymal neoplasms involving the lymph node.
- Described first in 1989, IPM is characterised by proliferation of myofibroblastic smooth muscle cells (blended spindle cells) admixed with characteristic eosiophilic amianthoid fibres that blend imperceptibly with leisonal cells.
- Data on aspiration cytology features of this rare neoplasm is very limited, we report two such cases with characteristic cytology findings.

Case Reports

We describe characteristic cytologic findings of two cases of IPM involving inguinal lymph node.

Case 1

- A 55 year old male, with history of rectal carcinoma, presented with left inguinal swelling for few months. Cytology smears from the swelling showed cohesive clusters of bland oval to spindle cells, embedded in a dense fibrillary stroma. Few fascicles were also identified. No mitosis or distinct atypia was noted. Subsequent excision of the mass showed typical histologic and immunohistochemical findings of IPM.

Case 2

- 36-year old female presented with abdominal discomfort and multiple slow growing swellings, largest of 5cm in right inguinal region. FNAC revealed spindle cells in background of fibrillary stroma. Excision of mass showed characteristic findings of IPM.

Morphological Features

- The cytomorphology was dominated by clusters of bland spindle cells with fusiform, oval to spindled nuclei, presenting in a myxoid/fibrillary background often associated with hemorrhage.
- The fibrillary stroma was usually dense and variably metachromatic.
- Nuclear palisading and traversing blood vessels are important features for diagnosis along with amianthoid fibers.

Discussion

- Most common site of this lesion is inguinal nodes, although it has been reported in other locations including, axilla, mediastinum, submandibular region and retroperitoneum.
- Patients present with unilateral, painless, soft, firm and mobile mass.
- It can affect any age (range 19 - 71 years) with slight male predominance (M:F = 1.4:1).
- FNAC findings are reported in only few cases till date (Table 1).
- On cytology these lesions typically show cohesive clusters of spindle cells in fibrillary background often associated with hemorrhage.
- On histology, these are composed of intersecting fascicles of spindle cells with elongated nuclei, focal nuclear palisading and 'amianthoid' fibers.
- No cytologic atypia and mitotic activity is seen.
- Spindle cells are immunopositive for smooth muscle actin, muscle-specific actin, vimentin, and negative for desmin, c-kit, carcinoembryonic antigen, keratin, CD34, S-100, HMB-45.
- Common morphologic differentials include schwannoma, kaposi sarcoma, and other benign and intermediate grade spindle-cell neoplasms.

Summary & Conclusions

- IPM is a rare neoplasm with distinctive cytomorphic features which are fairly characteristic and reproducible.
- Nuclear palisading and traversing blood vessels are important features for diagnosis along with amianthoid fibers.
- A diagnosis of IPM should be considered on FNA showing bland spindle cells displaying various patterns including single cells, small fascicles, and large cohesive clusters with the above features.

Table 1: Comparison of Cytologic Features

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<tbody>
<tr>
<td>Nature of cells</td>
<td>PAP &amp; DHC</td>
<td>MGG</td>
<td>H &amp; E</td>
<td>MGG &amp; H&amp;E</td>
<td>PAP &amp; MGG</td>
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<tr>
<td>Nuclear atypia</td>
<td>High</td>
<td>Moderate</td>
<td>High</td>
<td>Moderate</td>
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<tr>
<td>Single cells/clusters</td>
<td>Clusters</td>
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<td>Clusters</td>
<td>Clusters &amp; single cells</td>
<td>Clusters &amp; single cells in the background</td>
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<td>Palisading/clustering around stromal material</td>
<td>Present</td>
<td>Present</td>
<td>Vague</td>
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<td>Spindle cell features</td>
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<td>Blended spindle cells</td>
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References