RHABDOMYOBLASTS IN CEREBROSPINAL FLUID

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Rhabdomyosarcoma (RMS) is an aggressive soft tissue malignancy, not uncommonly seen in adults. The location of this malignancy is quite ubiquitous. However, a parameningeal location is uncommon and accounts for about 16% of all rhabdomyosarcomas. We report an instance where rhabdomyoblasts were seen infiltrating the cerebrospinal fluid (CSF).

A 35 year old female patient presented to our hospital with the primary complaints of bilateral nose block and left sided headache since1month. Clinically, a deviated nasal septum was diagnosed which needed a septal surgery. Since the hematological parameters showed a pancytopenia, the surgery was postponed. The patient presented 3 weeks later with additional complaints of worsening headache and significant blurring of vision in her left eye. The MRI scan revealed a midline, dural-based mass. A therapeutic tap of the cerebrospinal fluid sent to the clinical laboratory for analysis which showed large abnormal cells (figure 1). The bone marrow also showed similar cells, with karyomegaly, dense chromatin, and coalescing vacuoles which were Periodic Acid Schiff (PAS) negative. The biopsy from the mass was diagnosed as rhabdomyosarcoma (parameningeal type). Immunohistochemistry showed positivity for Myogenin and Myo-D1.

Rhabdomyosarcoma(RMS) is an aggressive soft tissue malignancy, not uncommonly seen in adults.(1)Bone marrow involvement is found in about 29% of RMS patients in clinical stage IV.(2) Parameningeal RMS represent 16% of all sarcomas but less than 10% present with pancytopenia.(3) A simultaneous marrow involvement with CSF spread is an extremely rare phenomenon.(4)The spread portends a poor prognosis. (5)Morphologically; such cases pose serious diagnostic challenges to a hematopathologist. A multidisciplinary approach comprising of histology, IHC on bone marrow biopsy and radiology are crucial to achieve the diagnosis of RMS.

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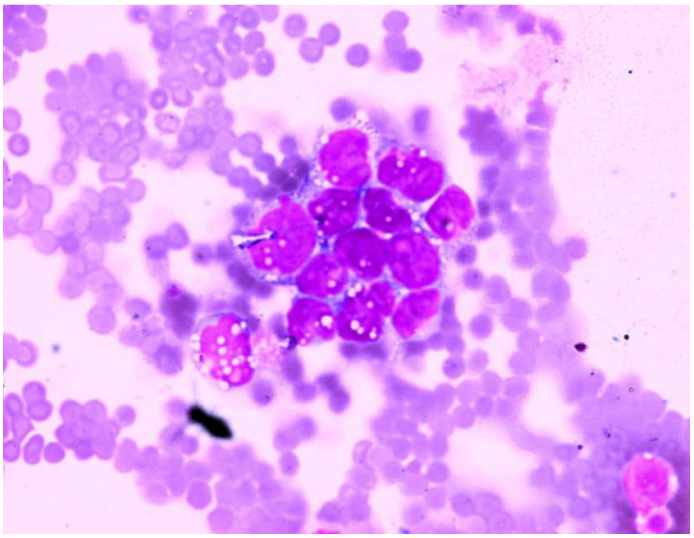

Figure 1: Pleomorphic features comprising of moderate to abundant vacuolated cytoplasm, round nucleus with dense chromatin; few with prominent nucleoli (Leishman x100)