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IMAGES

Spindle Cell Myeloma: A Masquerader

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A 67 year male presented with pallor and generalized weakness of 1 month duration. The peripheral blood examination showed macrocytic red cells with the presence of 30 nRBC cells/100 white blood cells. Biochemical investigations were unremarkable except for elevated S. LDH levels (2747U/L). Coombs test was negative. FDG PETCT showed mild diffuse FDG activity in the bulky spleen and bone marrow. Bone marrow aspiration was *aparticulate and dilute, however, the imprint smears and biopsy showed a cellular marrow completely replaced* by a *discrete* monomorphic population of ovoid to spindle cells with fine chromatin, inconspicuous nucleoli, shallow nuclear clefts, and a moderate amount of pale cytoplasm (Fig. 1a–c and inset 1a, o.m. 100×). *Flow cytometry immunophenotyping on the dilute aspirate sample showed ~ 2% clonal plasma cells positive for CD138, CD38, CD200 and lambda light chains; negative for CD45 CD19, CD56, and CD81* (Fig. 1d). Subsequently, immunohistochemistry performed on the biopsy specimen showed tumor cells to be positive for CD138 and negative for numerous other mesenchymal and epithelial markers, *namely vimentin and cytokeratin* (Fig. 1e). *Intriguingly, there was an absence of monoclonal protein on serum protein electrophoresis (SPE), however, immunofixation electrophoresis (IFE) showed a lambda light chain monoclonal protein* (Fig. 1f) *and the serum free light chain analysis revealed κ: λ ratio of 0.006*. A final diagnosis of spindle cell variant of myeloma was offered.

Spindle cell variant of myeloma is rarely reported in the literature and mimics sarcomas, spindle cell lymphomas and neuroendocrine tumors [1, 2]. Cognizance of this 'de-differentiated' variant is essential particularly in cases where 18F-FDG PET/CT and SPE are non-contributory in diagnosis.

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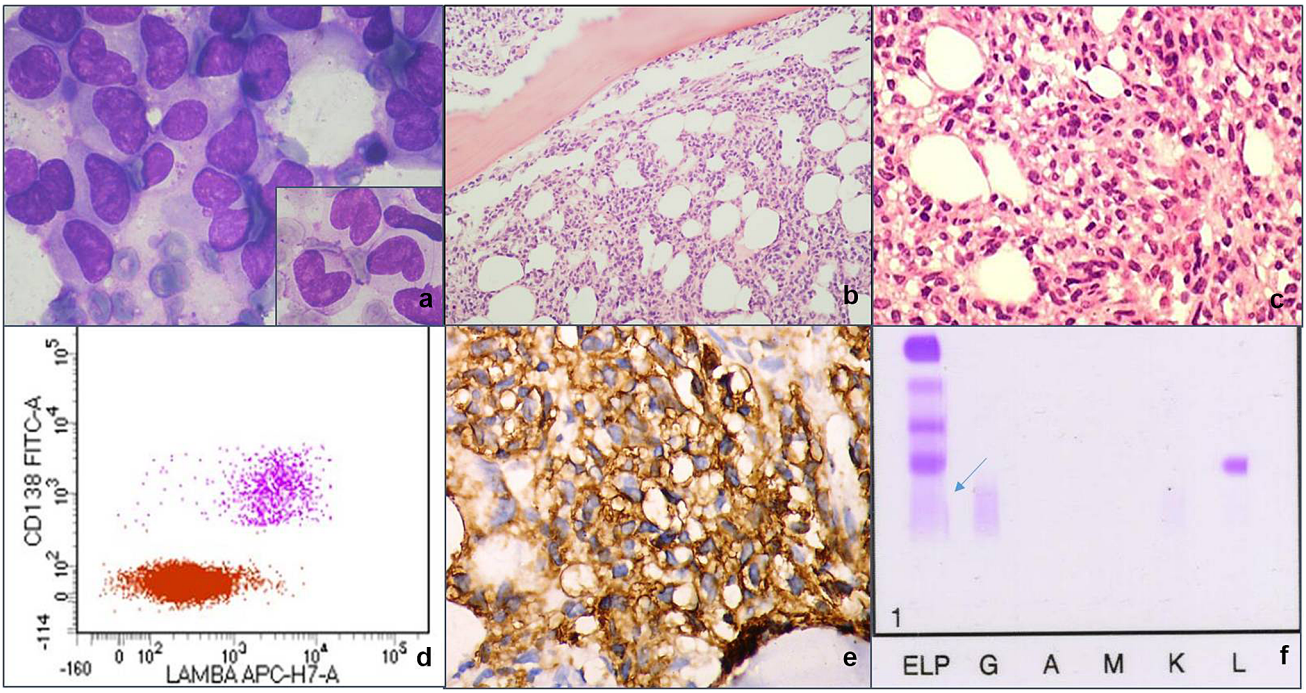

Fig. 1 Panel of photographs representing the diagnostic armamentarium, **a** MGG stained imprint smears showing the atypical ovoid to plump cells with moderate amount of pale blue cytoplasm, opened up chromatin and shallow clefting as seen in the inset, **b**, **c** hematoxylin and eosin stained bone marrow biopsy showing diffuse replacement of normal marrow by these atypical plasma cells (o.m. × 10× and 100×), **d** Flow cytometry dot plots depicting the clonal plasma cells, **e** pan-reactivity for CD138 by immunohistochemistry on bone marrow biopsy, **f** lambda light chain restriction confirmed by immunofixation electrophoresis (IFE)

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

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