Unusual morphology of multiple myeloma

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Abstract

Multiple myeloma can have plasma cells with unusual morphology and a high index of suspicion is required to diagnose multiple myeloma with atypical morphology.

Keywords Bone marrow aspirate (BMA) · Morphology · Myeloma

A 28-year-old female presented with scalp nodule since 2 years and breathing difficulty, pedal edema, and oliguria since 1 month. Investigations revealed severe anemia (hemoglobin 3.9 g/dl), raised ESR (80 mm/h), and deranged kidney function (Serum creatinine 6 mg/dl). Peripheral smear showed rouleaux formation. There were multiple lytic lesions on imaging.

Bone marrow aspirate (BMA) was done. BMA smears showed tightly cohesive cell clusters arousing a suspicion of metastasis (Fig. 1a). BMA was repeated for clearer morphology. Repeat smears showed similar dense cohesive clusters with elongated spindle cells at the periphery (Fig. 1b) and few scattered cells resembling plasma cells (inset—Fig. 1b). In view of the atypical morphology, further investigations

were done. Fine needle aspiration done from scalp nodule showed similar morphology as BMA smears. Cell block also showed mostly elongated spindle cells (Fig. 1c). Immunocytochemistry revealed kappa light chain restriction. The kidney biopsy showed cast nephropathy with kappa light chain restriction on direct immunofluorescence (Fig. 1d). Monoclonal band (IgG 3.15 mg/dl) in gamma region was seen on serum protein electrophoresis. The diagnosis of multiple myeloma was thus confirmed.

Only few case reports have described spindle cell morphology of plasma cells [1–3]. A high index of suspicion is required to diagnose multiple myeloma in presence of tight cohesive clusters and spindle cell morphology.

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Fig. 1 **a** BMA smear showing tight cohesive clusters mimicking metastasis ($\times 100$). **b** BMA smear showing few spindle cells at the periphery of clusters ($\times 100$) and few cells resembling plasmacytoid cells (Inset— $\times 400$). **c** Section of cell block showing mostly elongated cells and few plasmacytoid cells [arrow] (H&E stained— $\times 400$). **d** Kidney biopsy showing tubular casts on H&E ($\times 100$) and kappa light chain restriction on direct immunofluorescence (inset)

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Compliance with ethical standards

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

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