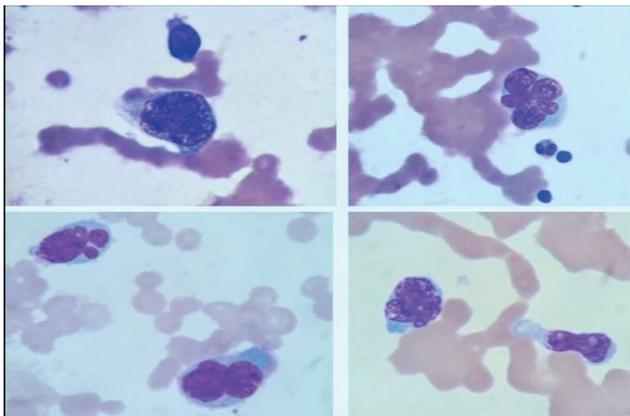


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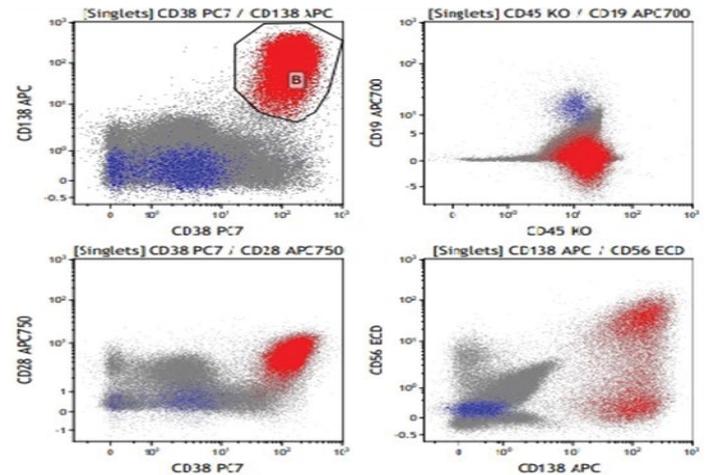
## Anaplastic Plasma Cell Myeloma – A Morphological Dilemma

Ramalingam Thulasi Raman\*

Department of Pathology, Shri Sathya Sai Medical College and Research Institute, Kancheepuram, Tamil Nadu, India



**Figure 1:** Peripheral smear revealed leucoerythroblastic blood picture with occasional atypical cells.



**Figure 2:** Flowcytometry showed 28.1% neoplastic plasma cells expressing bright CD38 and CD138 along with CD56 (subset), CD28 and cytoplasmic lambda light chain restriction.

### Clinical Image

A 59-year-old male presented with increased fatiguability and features of renal insufficiency. His routine work up showed anemia (Hb=7.5 g/dL) and thrombocytopenia (Platelet count=120 × 10<sup>6</sup>/L). Peripheral smear revealed leucoerythroblastic blood picture with occasional atypical cells. In view of the above smear picture, bone marrow aspiration was done. BMA showed hypercellular particles with diminished trilineage hematopoiesis. Many large atypical pleomorphic cells with high NC ratio, basophilic cytoplasm, and central to eccentric nucleus with irregular nuclear margin noted. Many such cells showed multi-nucleation and also nuclear lobation. Few bizarre cells are also noted. Some of the cells showed peripheral cytoplasmic flare. The possibility of plasma cell myeloma with anaplastic morphology was considered and Immunophenotyping by flowcytometry was done for confirmation. Flowcytometry showed 28.1% neoplastic plasma cells expressing bright CD38 and CD138 along with CD56 (subset), CD28 and cytoplasmic lambda light chain restriction. They were negative for CD19 and CD20. Morphology and Immunophenotypic features were consistent with anaplastic plasma cell myeloma.

Anaplastic myeloma is a variant of plasma cell myeloma with an aggressive clinical behavior and poor outcome. They can present as a diagnostic dilemma due to their strange morphology. They can mimic as high grade lymphoma or as a non-hematopoietic malignancy by morphology. Anaplastic morphology may be seen at initial presentation or later as a progressive transformation of myeloma. Extramedullary infiltration is common. A constellation of clinical findings along with morphology, biochemical parameters and immunophenotype is mandatory for establishing the correct diagnosis (Figures 1 and 2).

**Keywords:** Myeloma; Lymphoma; Flowcytometry

\*Corresponding author: Ramalingam Thulasi Raman, Assistant Professor, Department of Pathology, Shri Sathya Sai Medical College and Research Institute, Kancheepuram, Tamil Nadu, India, E-mail: drthulas31@gmail.com

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