Acute plasmablastic leukemia – A diagnostic challenge

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CASE REPORT

A 58-year-old male with myeloma treated with chemotherapy and bone marrow transplant presented with thrombocytopenia and anemia. A peripheral blood smear showed numerous blast-like cells (30%), some with subtle plasmacytoid morphology (Figure 1 - Panel A). Flow cytometry analysis showed variable expression of CD38, CD56 and cytoplasmic kappa-restriction (Figure 1 - Panel B, C, D). Due to negativity for CD138, an innovative approach of cell block preparation from peripheral leukocyte pellet was attempted and demonstrated positivity for MUM1 (Figure 1 - Panel E). Following a diagnosis of plasmablastic leukemia, a bone marrow aspirate showed mostly undifferentiated blastic cells (90%) (Figure 1 - Panel F) with the same phenotype noted above (biopsy not performed). These findings confirmed plasmablastic myeloma presenting as plasmablastic leukemia. The patient expired within 6 months of above diagnosis.

DISCUSSION

Blastic cells in peripheral blood with subtle plasmacytoid morphology raise a broad differential diagnosis including acute leukemia and leukemic phase of myeloma, plasmablastic lymphoma and other non-Hodgkin’s lymphomas. Plasma cell leukemia in itself is infrequent but presentation with plasmablasts of this degree in the peripheral blood is rare. Plasmablasts can involve blood as terminal phase of myeloma [1] and this stage may deserve the designation of acute plasmablastic leukemia.

CONCLUSION

This is a rare presentation of plasmablasts in peripheral blood of a patient with multiple myeloma indicating a transformation into an aggressive phase.

REFERENCES


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Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.

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