

Clinical Image

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A Case of Hypergranular Acute Promyelocytic Leukemia (French-American-British Classification M3) Neil Batta, MS3

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Clinical Image

67-year-old male with no significant medical history was admitted with complaints of chronic fatigue, splenomegaly, and gingival bleeding for the past six months. On admission, our patient was pancytopenic with a critical platelet count of 15K and mean corpuscular volume of 102. Work-up for medication-induced, infectious, and malignant etiologies were pursued. A peripheral blood smear (Figure 1) and bone marrow aspirate (Figure 2) were obtained revealing characteristic promyelocytes with multiple Auer rods (faggot cells) on smear and increased immature granulocytes, as seen on aspirate, indicative of the hypergranular form of acute promyelocytic leukemia (FAB-M3) [1]. The patient was started on induction therapy using all-trans retinoic acid (ATRA) and concurrent arsenic trioxide therapy after

48 hours [2]. Additional concerns for differentiation syndrome, due to hyperleukocytosis [3], and disseminated intravascular coagulation (DIC) [4] were present and monitored closely. Follow up cytology confirmed t(15;17,q22,q12) promyelocytic leukemia and retinoic acid receptor-alpha (PML:RARA) gene translocation. Our patient was transfused with leukocyte-reduced platelets, cryoprecipitate [3], and packed red blood cells as needed until appropriate blood counts were attained. Due to the precipitous rise in WBC count (from 2K to 72K), the patient was transitioned to ATRA plus anthracyclin-based (e.g., daunorubicin, cytarabine) chemotherapy in place of arsenic trioxide. Total therapy includes two cycles of additional consolidation treatment and ATRA maintenance [5].

References

1. Swerdlow SH, Campo E, Harris NL, et al. (2008) World Health Organization Classification of Tumours of Haematopoietic and Lymphoid Tissues, IARC Press, Lyon.
2. Wang ZY, Chen Z (2000) Differentiation and apoptosis induction therapy in acute promyelocytic leukaemia. *Lancet Oncol* 1: 101-106.
3. Vahdat L, Maslak P, Miller WH Jr, Eardley A, Heller G, et al. (1994) Early mortality and the retinoic acid syndrome in acute promyelocytic leukemia: impact of leukocytosis, low-dose chemotherapy, PMN/RAR-alpha isoform, and CD13 expression in patients treated with all-trans retinoic acid. *Blood* 84: 3843-3849.
4. Takitani K, Koh M, Inoue A, Kawakami C, Kuno T, et al. (2006) Pharmacokinetics of all-trans retinoic acid in adults and children with acute promyelocytic leukemia. *Am J Hematol* 81: 720-721.
5. Fenaux P, Chastang C, Chevret S, Sanz M, Dombret H, et al. (1999) A randomized comparison of all transretinoic acid (ATRA) followed by chemotherapy and ATRA plus chemotherapy and the role of maintenance therapy in newly diagnosed acute promyelocytic leukemia. The European APL Group. *Blood* 94: 1192-1200.

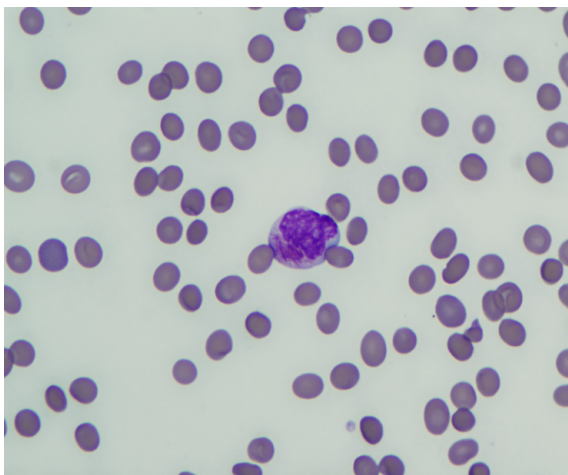


Figure 1: Smear auer rods.

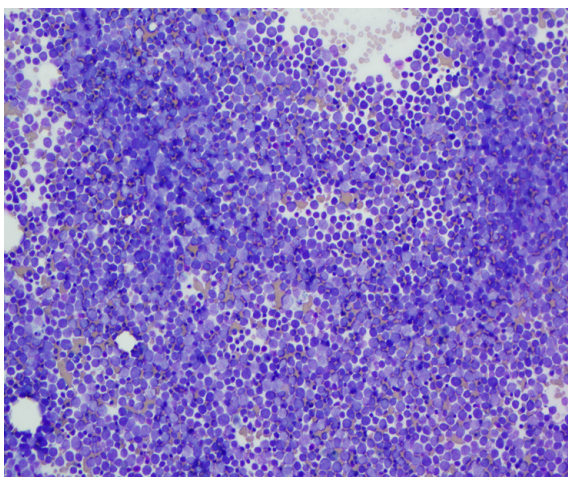


Figure 2: Aspirate cellularity.

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