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CLINICAL IMAGE

Consolidative opacity in a patient with acute leukemia

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Abstract

27 year old man with newly diagnosed acute myeloid leukemia presents with new parenchymal consolidation. Although biopsy was precluded, diagnostic studies support myeloid sarcoma. Resolution of consolidation occurred with hematopoietic stem cell transplantation.

KEYWORDS
acute leukemia, myeloid sarcoma, pneumonia

A 27-year-old man presented with sore throat, fever, and dyspnea with exertion. He was treated for Streptococcal pharyngitis, but chills, and night sweats continued. Laboratory data demonstrated hyperleukocytosis (240,000 K/uL with 80% blasts), anemia (8.5 g/dL), and severe thrombocytopenia (35 K/uL). Bone marrow biopsy confirmed acute myeloid leukemia (AML), and hydroxyurea and cytarabine were initiated. Imaging (Figure 1) and bronchoscopy with bronchoalveolar lavage (Figure 2) were performed. Cultures were negative. Patient was treated with induction chemotherapy, followed by hematopoietic stem cell transplant (HSCT). Complete resolution of consolidation occurred 5 months after transplant.

Myeloid sarcoma is an infrequent extramedullary presentation of AML, affecting 3%–5%.[1–3] It typically involves bones, soft tissue, mediastinal lymph nodes, or pleura.[4] Descriptions of pulmonary chloroma are limited to case series and estimated at less than 1%.[5] BAL is the first step in addressing pulmonary infiltrates since concern for infection is high. Biopsies may often be precluded by

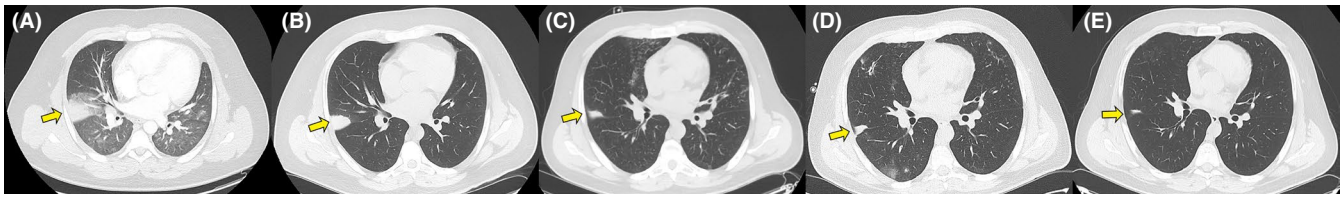

FIGURE 1 Computed tomography of the chest revealing consolidation (yellow arrow) in the right upper lobe posterior segment with bilateral infiltrates (A, at presentation; B, 2 weeks after presentation; C, 5 weeks after hematopoietic stem cell transplantation (HSCT); D, 11 weeks after HSCT; E, 21 weeks after HSCT)

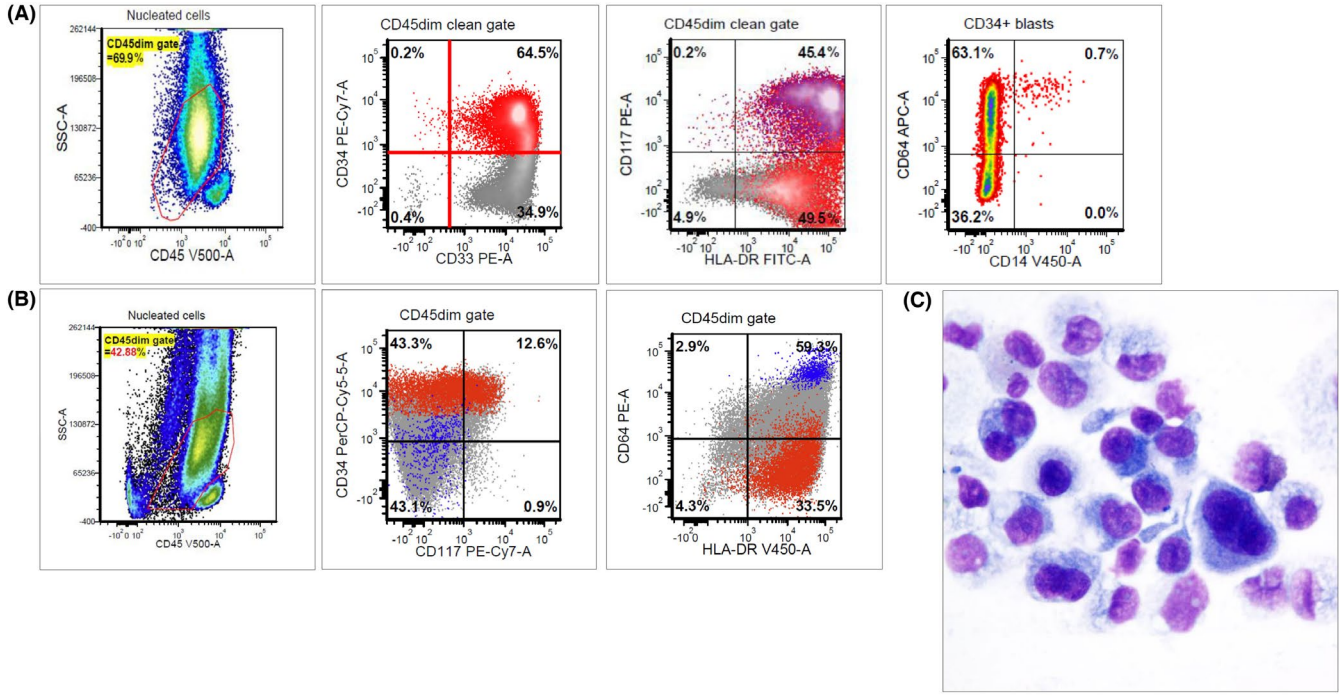

FIGURE 2 Cytology from bronchoscopy with bronchoalveolar lavage revealed scattered atypical monocytoid cells. Multiparametric 10-color flow cytometry immunophenotyping analysis was performed on the bone marrow (A, top row) and BAL specimens (B, bottom row). The blasts from the bone marrow (A) account for ~70% of all cells; these were positive for CD34, CD33, CD117 partial, HLA-DR, CD64 partial, and negative for CD14. The blasts from the bronchoalveolar lavage specimen (B) represent ~43% of total cells and show the same immunophenotype: positive for CD34, CD117 partial, HLA-DR and CD64 partial. Diff-quick stained smears from the bronchoalveolar lavage specimen (C, bottom row) from the right middle lobe show rare scattered atypical monocytoid cells with immature nuclear chromatin consistent with blasts

hematologic aberrancies and carries additional risk and procedure-related mortality.[6] In our case, there was severe thrombocytopenia refractory to transfusion. Flow cytometry from BAL may be suggestive of leukemic involvement, but clinical correlation is needed. Resolution may occur with treatment, and radiation therapy can be considered for isolated lesions. In our case, the myeloid sarcoma improved with chemotherapy and resolved after HSCT.

CONFLICTS OF INTEREST

The author declares that no conflicts of interest exist.

AUTHOR CONTRIBUTION

CB, WB, RS, LB, and SF involved in conception and design, acquisition of radiological and pathological data, drafting the article, critical revision of intellectual content and final approval of the version to be published.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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