Small Cell Lung Cancer Presenting as Carcinocytemia

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A 63-year-old man with an unremarkable medical history was admitted to the emergency department because of jaundice and weight loss. A plain chest radiograph

Figure 1. (A) Chest radiograph showing a tumor in the left lung. (B) Contrast-enhanced CT scan of the chest shows a large left lung tumor with invasion of the left pulmonary artery and mediastinal lymphadenopathy.

Figure 2. (A) Peripheral blood smear with May-Grünwald-Giemsa staining shows atypical blast-like cells. (B) Bone marrow aspirate smears show malignant cells with large nuclei and basophilic cytoplasm and tend to occur in clusters.

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A tumor in the left lung with pulmonary metastases, mediastinal lymphadenopathy, and hepatomegaly. Laboratory evaluation showed hyperbilirubinemia, anemia, thrombocytopenia, and leukocytosis with neutrophil left shift. Examination of a peripheral blood smear with May-Grünwald-Giemsa staining revealed leukoerythroblastosis and atypical blast-like cells (Fig. 2A). These cells showed large nuclei and a scant basophilic cytoplasm. The bone marrow aspirate smears (Fig. 2B) and trephine biopsy specimen (Figs. 3A–3D) showed replacement of normal hematopoietic cells by malignant cells often aggregated in clusters with nuclear molding. Immunohistochemistry for synaptophysin and thyroid transcription factor-1 was positive in the malignant cells (Figs. 3C and 3D). Overall all findings were consistent with stage IV small cell lung cancer.

The clinical course was characterized by progressive pain and despite supportive care, he died on day 8 after admission. Carcinocythemia or carcinoma cell leukemia mimics acute leukemia and is a rare finding in a peripheral blood smear in patients with disseminated solid malignancies. Thirty cases, mostly patients with advanced-stage breast cancer, have been reported. It is associated with widespread disease and poor prognosis. Carcinocythemia differs from circulating tumor cells, which can only be detected after enrichment and isolation by immunophenotypic and genotypic analyses.

References