Unusual cause of infant pancytopenia: granulomatous bone marrow lesion with disseminated histoplasmosis

Weijie Li and Mukta Sharma, Children’s Mercy Hospital

A 3-month-old previously healthy male infant from the midwestern United States presented with fever, hepatosplenomegaly, and pancytopenia (white blood cell count, $2.66 \times 10^9/L$; hemoglobin, 9.1 g/dL; platelet count, $51 \times 10^9/L$). Peripheral blood smear showed anisopoikilocytosis, polychromasia, thrombocytopenia, and leukopenia (panel A; original magnification $\times 1000$, Wright's stain). The initial workup for bacterial and viral infections was negative. The patient received antibiotics and did not improve. The hematology department was consulted and a bone marrow biopsy was performed. Hematoxylin and eosin–stained sections of the bone marrow biopsy showed multiple nonnecrotizing granulomas with Langhans giant cells (panels B-C; original magnification $\times 100$ [B], $\times 400$ [C]). Gomori methenamine silver staining showed multiple small yeast cells with narrow-based budding (panel D; original magnification $\times 1000$). Histoplasma capsulatum was confirmed by fungal polymerase chain reaction test. A test for Histoplasma antigen was positive in both blood and urine samples. Disseminated histoplasmosis (DHP) was diagnosed. The patient was treated with amphotericin B for 2 weeks and then itraconazole for 4 months, and he responded well to treatment. There was neither unusual exposure history nor evidence of immune deficiency.

DHP rarely occurs in infants, but when it does, it can cause granulomatous lesions and pancytopenia. Although it is treatable, delays in diagnosis can cause significant morbidity or death. In this case, bone marrow examination helped with the diagnostic evaluation, but a less invasive Histoplasma antigen test should be considered for infants with unexplained fever and cytopenias.
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