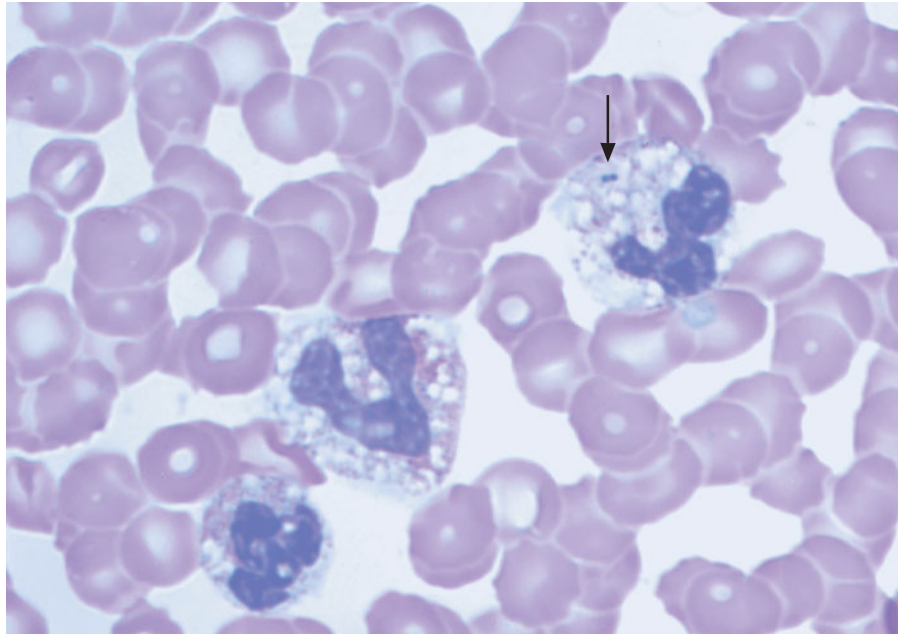


A previously healthy, 37-year-old woman presented to the emergency department obtunded and hypotensive. The previous night, a cough and sore throat had developed, and the patient had awoken with a purpuric rash and abdominal pain. Laboratory tests showed that the patient's white-cell count was 20,180 per cubic millimeter, with 5 percent metamyelocytes, 6 percent bands, 88 percent neutrophils, and 1 percent lymphocytes. Her platelet count was 41,000 per cubic millimeter. The tests also showed a depressed fibrinogen level and an elevated D-dimer level. What is the likely diagnosis?

IMAGES IN CLINICAL MEDICINE

Toxic Neutrophils in *Streptococcus pneumoniae* Sepsis



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A PREVIOUSLY HEALTHY, 37-YEAR-OLD WOMAN PRESENTED TO THE emergency department obtunded and hypotensive. The previous night, a cough and sore throat had developed, and the patient had awoken with a purpuric rash and abdominal pain. Laboratory tests showed that the patient's white-cell count was 20,180 per cubic millimeter, with 5 percent metamyelocytes, 6 percent bands, 88 percent neutrophils, and 1 percent lymphocytes. Her platelet count was 41,000 per cubic millimeter. The tests also showed a depressed fibrinogen level and an elevated D-dimer level — findings consistent with the presence of disseminated intravascular coagulation. A peripheral-blood smear showed highly vacuolated neutrophils, some of which contained phagocytosed circulating diplococci (arrow). Despite ventilatory support and the administration of intravenous fluids, blood products, antibiotics, and vasopressive agents, the patient died five hours after presentation. One of two blood cultures later revealed pan-sensitive *Streptococcus pneumoniae*.

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