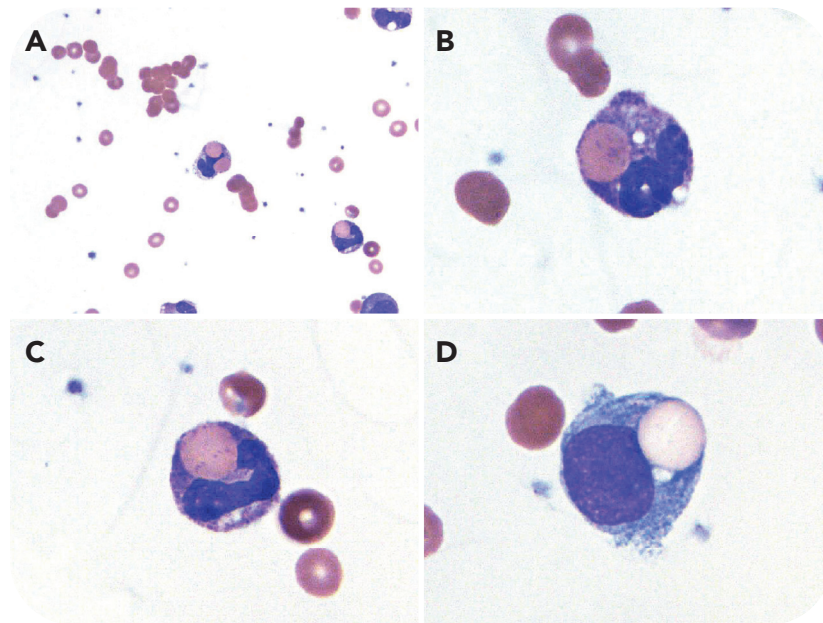


Peripheral erythrophagocytosis in paroxysmal cold hemoglobinuria

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A 5-year-old girl presented with hematuria, jaundice, and lethargy. A week prior, she had a fever (100°F) and cough. Laboratory studies showed leukocytosis (leukocytes, $31 \times 10^3/\mu\text{L}$), normocytic anemia (hemoglobin, 4.9 g/dL), and evidence of intravascular hemolysis (total bilirubin, 13.8 mg/dL; lactate dehydrogenase, 2694 U/L; haptoglobin, <8 mg/dL). A direct antiglobulin test was positive for complement C3 and negative for immunoglobulin G (IgG). A peripheral smear revealed erythrocyte agglutination and erythrophagocytosis by neutrophils and monocytes (Wright-Giemsa stain; panel A original magnification $\times 600$; panels B-D original magnification $\times 1000$). A Donath-Landsteiner (DL) test was inconclusive owing to reactivity in the negative control, and antibody specificity studies were not performed. *Mycoplasma pneumoniae* immunoglobulin M was elevated, supporting recent infection.

A diagnosis of paroxysmal cold hemoglobinuria (PCH) was rendered, and she received azithromycin and leukoreduced group O red blood cell (RBC) units. Over several days, her anemia began to resolve, and she was discharged home with follow-up.

PCH is an autoimmune hemolytic anemia caused by a cold-reactive complement-binding IgG antibody with specificity for the P blood group antigen, and *M pneumoniae* infection is a known trigger. Erythrophagocytosis by neutrophils is increasingly recognized as a feature of this disorder. The DL test can identify the biphasic hemolysin in PCH, and indirect testing using enzyme-treated reagent O RBCs and normal donor serum can increase diagnostic yield. Treatment typically involves RBC transfusions until brisk hemolysis resolves.