Hairy cell leukemia (HCL), comprising 2% of all leukemias, is a chronic disorder characterized by mononuclear cells with prominent cytoplasmic projections. For years, patients with HCL underwent splenectomies and then interferon alpha for treatment, which provided high response rates but low percentages of complete remission. More recent treatments with 2-chlorodeoxyadenosine result in 85%–90% complete remission, minimal toxicity, and lower rates of relapse using a single course of therapy. A second course of therapy can be administered if HCL continues to be resistant or recurs. New research using anti-CD22 recombinant immunotoxin BL22 is proving successful. With these latest chemotherapy options, patients’ prognoses are optimistic.

At a Glance

✦ Hairy cell leukemia (HCL) is a rare form of leukemia.
✦ Early symptoms include fatigue, infection, and bleeding.
✦ Treatment with 2-chlorodeoxyadenosine is used for initial pharmacologic management of HCL.

Signs and Symptoms

Early signs and symptoms of HCL are related to pancytopenias, including fatigue, infection, and, less commonly, bleeding. All HCL cases present with anemia; 75% of patients have thrombocytopenia (Schroeder, Tierney, McPhee, Papadakis, & Krupp, 1992). Splenomegaly can be massive in 90% of patients and hepatomegaly occurs in 40%, both causing abdominal discomfort (Goodman, Bethel, et al., 2003). HCL is progressive, with a median survival rate of 53 months, if left untreated (Saven & Piro, 1994).

Identification and Diagnosis

The hairy cell is mononuclear with prominent cytoplasmic projections, irregular cytoplasmic outlines, and villi of various lengths. They are relatively large cells with abundant pale blue cytoplasm and a low nuclear and cytoplasmic ratio. Hairy cells may be identified by Wright’s stained peripheral blood films in approximately 90% of patients. The cells appear as round, oval,