

## FEATURE ARTICLE

# Emerging Therapeutic Options for B-Cell Disorders: Idiopathic Thrombocytopenic Purpura and Chronic Lymphocytic Leukemia

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B-cell disorders include a large group of malignant and nonmalignant diseases with tremendous variation in incidence, natural history, treatment, and prognosis. This article will focus on adult idiopathic thrombocytopenic purpura (ITP) and chronic lymphocytic leukemia (CLL). Clinicians must individualize treatment for ITP and CLL to each patient. Observation without intervention is appropriate for some patients, whereas immediate treatment is indicated for others. Deciding when to treat and which agents to use can be difficult, but new therapeutic options are emerging for both conditions.

**N**urses play a significant role in the care of adult patients with idiopathic thrombocytopenic purpura (ITP) and chronic lymphocytic leukemia (CLL). Patient and caregiver education about the diseases and their treatment options and side effects is critical. Oncology nurses should have a thorough understanding of standard therapeutic strategies and newer targeted therapies to educate patients and caregivers. Maintaining understanding is a significant and ongoing challenge for oncology nurses because of the large number of standard treatment options, investigational agents, and regimens under study in clinical trials.

## Idiopathic Thrombocytopenic Purpura

### Definition and Etiology

ITP is an autoimmune disorder characterized by autoantibody binding to platelet antigens. The binding induces premature destruction of platelets, particularly by the spleen but also by other components of the reticuloendothelial system, which is composed primarily of blood monocytes and tissue macrophages, resulting in thrombocytopenia (British Society for Haematology, 2003; Crow, Song, Siragam, & Lazarus, 2006; George et al., 1996).

ITP is defined as isolated thrombocytopenia without other significant abnormalities on complete blood count or peripheral blood smear. It can be a primary or secondary disorder. The etiology of primary ITP is unknown; however, secondary ITP is associated with certain medications, infections, other autoimmune diseases, transfusions, or pregnancy. The most common diagnosis of secondary ITP in malignant disease is in patients with CLL (British Society for Haematology, 2003; George et al., 1996). This article will focus on adult primary ITP.

### At a Glance

- ◆ Treatment options for idiopathic thrombocytopenic purpura (ITP) and chronic lymphocytic leukemia (CLL), both B-cell disorders, are complex.
- ◆ New treatments for ITP and CLL include monoclonal antibodies and combination chemotherapy regimens.
- ◆ Oncology nurses need information about disease etiology, diagnosis, staging, treatment options, and nursing management strategies.

### Prevalence and Natural History

In adults, ITP typically is an insidious and chronic process with presenting symptoms correlating to the degree of thrombocytopenia, ranging from an incidental diagnosis without symptoms to life-threatening bleeding. In children, the disease usually is acute in onset and spontaneously resolves (British Society for Haematology, 2003; George et al., 1996).

Estimates of incidence suggest that ITP occurs in 1–13 adults and children per every 100,000 people (Sandler, Schexneider,

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Digital Object Identifier: 10.1188/07.CJON.S1.23-36