B-Cell Lymphoma, Unclassifiable:
A Review of the Literature

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B-cell lymphoma, unclassifiable, (BCLU) is a subtype of lymphoma first recognized by the World Health Organization in 2008. Patients with this lymphoma have a very poor prognosis, with a rapidly progressive and refractory clinical course despite intensive therapy. Clinical data remain sparse, and no established therapeutic approach exists for the treatment of BCLU. Although BCLU may currently be under-recognized, its incidence is expected to increase with improved detection. Diagnostic accuracy is critical to prevent under- or overtreatment of patients. Treatments may need to be more intensive and include central nervous system prophylaxis. Development of clinical trials evaluating immunochemotherapy is recommended for this challenging lymphoma subtype. Nurses play a critical role in providing disease and treatment education and assessment, monitoring during therapy, and managing treatment-related side effects. Nurses need to emphasize prevention of chemotherapy complications and timely communication with the oncology healthcare team.

Non-Hodgkin lymphomas (NHLs) are most commonly of B-cell origin and represent a diverse group of lymphoid tumors (Hoffbrand, Moss & Pettit, 2006). The incidence has increased significantly since the 1960s, partially attributed to the HIV epidemic, the aging population, and changes in diagnostic practice, with an estimated 66,000 new cases diagnosed in 2010 in the United States (National Cancer Institute, 2010). NHL is the sixth most common cause of cancer death, with more than 20,000 deaths estimated in 2010 (Hoffbrand et al., 2006; Jemal et al., 2009; Peranski, 2007). Diffuse large B-cell lymphoma (DLBCL) accounts for about 40% of NHLs (Abd El-Hameed, 2005; Niitsu, Okamoto, Miura, & Hirano, 2009).

The World Health Organization's 2008 classification of NHL included a new diagnostic category: B-cell lymphoma, unclassifiable, (BCLU), with features intermediate between DLBCL and Burkitt lymphoma (Swerdlow et al., 2008). Before the classification was changed, BCLUs were diagnosed as high-grade lymphomas, Burkitt-like lymphoma, or assigned to either Burkitt lymphoma or DLBCL. Poor reproducibility in diagnosis exists among pathologists when features overlap (de Leval & Hasserjian, 2009). BCLU, also referred to as double (or dual) hit DLBCL, occurs when BCL2 and c-MYC translocations are present (Johnson et al., 2009). This category is not considered a new,

At a Glance

✦ The simultaneous expression of oncoproteins may contribute to the poor outcomes in B-cell lymphoma, unclassifiable, (BCLU).

✦ Recognition of BCLU is imperative to maximize effective treatment and achieve optimal results.

✦ Oncology nurses directly affect patient outcomes by providing important education and treatment of chemotherapy-related complications.

separate disease entity but instead is reserved for challenging diagnostic cases (Bellan, Stefano, de Giulia, Rogena, & Lorenzo, 2009; Gurbuxani, Anastasi, & Hyjek, 2009).

The etiology of NHL, including BCLU, remains unknown, although a variety of factors have been associated with increased risk. Immunodeficiency conditions from HIV or AIDS, immunosuppressive medications after transplantation, and autoimmune disorders (e.g., Sjögren's syndrome, rheumatoid arthritis) demonstrate defects in adaptive and innate immunity (Hoffbrand et al., 2006; Peranski, 2007). Oncogenic viruses, such as the Epstein-Barr virus and human herpesvirus 8, are associated with