Cutaneous T-Cell Lymphoma

Optimizing care in patients receiving anti-CCR4 monoclonal antibody mogamulizumab

Marianne Tawa, RN, MSN, ANP, Erin Kopp, ACNP-BC, Sue McCann, MSN, RN, DNC, and Wendy Cantrell, DNP, CRNP

BACKGROUND: Cutaneous T-cell lymphoma (CTCL), including subtypes mycosis fungoides (MF) and Sézary syndrome (SS), represents a rare group of non-Hodgkin lymphomas. Mogamulizumab is a first-in-class monoclonal antibody that selectively binds to C-C chemokine receptor 4, which is overexpressed on the surface of tumor cells in T-cell malignancies, including MF/SS-type CTCL.

OBJECTIVES: This review identifies common diagnostic features of MF/SS, the efficacy and side effect profile of mogamulizumab, and practical management strategies for optimizing the nursing care of patients with MF/SS-type CTCL.

METHODS: Case studies are used to describe the role of mogamulizumab in CTCL and to review practical considerations when administering mogamulizumab to patients.

FINDINGS: Mogamulizumab is an effective treatment for adult patients with relapsed or refractory MF/SS-type CTCL who have received at least one prior systemic therapy. Infusion reactions and drug eruptions require prompt diagnosis and treatment.

KEYWORDS
mogamulizumab; mycosis fungoides; Sézary syndrome; adverse events

DIGITAL OBJECT IDENTIFIER
10.1188/19.CJON.E73-E80

CUTANEOUS T-CELL LYMPHOMA (CTCL) REPRESENTS A RARE GROUP of non-Hodgkin lymphomas with an overall incidence in the United States of about 10 cases per one million people (Korgavkar, Xiong, & Weinstock, 2013). CTCL affects men more often than women and, compared with other racial/ethnic groups, is more prevalent in African American and non-Hispanic Caucasian populations (Bradford, Devesa, Anderson, & Toro, 2009). The incidence of CTCL increases with age, with early- and late-onset peak frequencies occurring around ages 50–60 years and 70–80 years, respectively.

The underlying pathophysiology of CTCL is not well understood. Antigenic stimulation has been proposed as a precipitating factor, with potential links to genetic factors, environmental toxins, or infectious agents (Chung & Poligone, 2015; Foss & Girardi, 2017; Hwang, Janik, Jaffe, & Wilson, 2008). Other proposed factors that may affect the transformation of normal T lymphocytes into malignant T lymphocytes include dysfunctions in cutaneous lymphocyte antigen, T-cell receptor signaling, regulatory T cells, histone deacetylases, and cytokine expression (Bagherani & Smoller, 2016).

Mycosis fungoides (MF) and Sézary syndrome (SS) are distinct subtypes of CTCL with shared clinical and biologic features. Both diseases can adversely affect patient quality of life relating to intractable pruritus, rash, difficulty sleeping, concern over appearance, and other negative effects on functional, emotional, and social well-being (Demierre, Gan, Jones, & Miller, 2006; Molloy et al., 2019). MF is the most common subtype of CTCL and accounts for about 50%–70% of CTCL cases (National Comprehensive Cancer Network, 2019). In 2016, an estimated 1,620 people were diagnosed with MF in the United States (Teras et al., 2016). MF is an overall indolent T-cell lymphoma characterized by skin involvement in the form of patches, plaques, or tumors (Hwang et al., 2008). The skin manifestations may wax and wane in the early stages of disease. MF generally follows a slow, chronic course and infrequently spreads beyond skin disease; however, some patients with MF can also present with, or develop, extracutaneous disease in the blood, lymph nodes, or visceral organs (Foss & Girardi, 2017).

Compared with MF, SS is a much less common but more aggressive leukemic variant of CTCL, accounting for about 1%–3% of CTCL cases (National