

# Steroid-Refractory Chronic Graft-Versus-Host Disease: Treatment Options and Nursing Care

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**BACKGROUND:** Chronic graft-versus-host disease (cGVHD) is a significant complication for patients who receive allogeneic hematopoietic stem cell transplantation. This disease is further complicated for patients who are refractory to steroids. This article reviews emerging therapies and supportive care for patients with steroid-refractory cGVHD.

**OBJECTIVES:** This article provides foundational knowledge on steroid-refractory cGVHD, emerging treatment options, and related supportive care.

**METHODS:** Current research on emerging therapies for patients with steroid-refractory cGVHD is summarized along with supportive care recommendations and a review of related nursing considerations.

**FINDINGS:** Emerging therapies for steroid-refractory cGVHD offer opportunities for improved clinical outcomes for these patients. Nursing knowledge of new therapies and supportive care for patients with steroid-refractory cGVHD supports the provision of optimal nursing care for a complex population of patients.

## KEYWORDS

stem cell transplantation; graft-versus-host disease; steroid-refractory GVHD

## DIGITAL OBJECT IDENTIFIER

10.1188/23.CJON.259-265

**ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION (HSCT)** is a mainstay of effective therapy for hematologic and nonhematologic conditions (Zeiser & Blasar, 2017). Roughly 9,000 allogeneic HSCTs were performed in the United States in 2020 (Health Resources and Services Administration, 2022). Although mortality related to transplantation has improved significantly in recent years, the management of serious complications after transplantation remains a formidable challenge. Graft-versus-host disease (GVHD), which may be either acute or chronic, remains the leading cause of morbidity and mortality following transplantation (Flowers & Martin, 2015). GVHD occurs when the transplanted donor immune system recognizes the host as foreign, triggering an inflammatory response (Schmit-Pokorny & Eisenberg, 2020).

A common and potentially life-threatening complication of allogeneic HSCT, chronic GVHD (cGVHD) adversely affects the quality of life and clinical outcomes of HSCT recipients. With a greater use of HSCT among older adult patients and an increasing use of mobilized stem cell graft products, the incidence of cGVHD has increased. About 30%–70% of HSCT recipients will be affected by cGVHD, which typically occurs beyond the first 100 days post-transplantation (Wolff et al., 2021).

Pathophysiologic understanding of cGVHD is emerging but largely remains poorly defined (Socié & Ritz, 2014). cGVHD involves alloreactive donor-derived T cells and recipient T cells that have undergone education and specification in the thymus and become autoreactive. Three distinct biologic phases of GVHD likely contribute to the clinical manifestations of cGVHD. Phase 1 involves acute inflammation and tissue injury, phase 2 incorporates chronic inflammation and dysregulated immunity, and phase 3 involves aberrant tissue repair and fibrosis (Wolff et al., 2021). The variable clinical manifestations of cGVHD resemble autoimmune syndromes and can be seen across a broad spectrum of organ systems. Body systems affected by cGVHD include the skin, oral, ocular, gastrointestinal, hepatic, pulmonary, genitourinary, musculoskeletal, and hematopoietic systems (Cooke et al., 2017; Flowers & Martin, 2015).

Risk factors for the development of cGVHD include human leukocyte antigen disparity between recipient and donor, prior history of acute GVHD, older donor age, sex and parity of the donor, and use of peripheral blood stem cells. To date, studies focusing on GVHD prophylaxis have not resulted in a decrease in the incidence of cGVHD.

Corticosteroids are the mainstay of treatment for both acute GVHD and cGVHD. However, frontline corticosteroid treatment is largely unrewarding,