## Diarrhea in Multiple Myeloma:

## A Review of the Literature

Beth Faiman, PhD, CNP



Background: One of the most common and inadequately managed symptoms that patients with multiple myeloma (MM) experience as a result of cancer treatment is diarrhea. Diarrhea in patients with MM often is severe enough to warrant dose reduction, delays, or discontinuation of chemotherapy. Short-term diarrhea can occur as a side effect of drugs, such as bortezomib (Velcade®) or panobinostat (Farydak®). Late-onset diarrhea from lenalidomide (Revlimid®) can occur 17–24 months after the start of therapy. Treatment of diarrhea is often by dose reduction

and discontinuation of the offending drug. However, the symptom fails to entirely resolve with these interventions and dose reductions place the individual at risk for disease progression. Best practices for diarrhea management in MM are poorly understood, but diarrhea symptoms impede patient adherence and undermine quality of life.

**Objectives:** The purpose of this article is to review the etiology of the symptom of diarrhea in people with cancer, specifically MM. Management strategies also are discussed.

Methods: A comprehensive review of CINAHL®, MEDLINE®, and PubMed databases was performed using the search terms diarrhea, chemotherapy, multiple myeloma, and cancer. Research studies, quidelines, and papers from peer-reviewed publications were considered.

Findings: Although general guidelines from the American Society of Clinical Oncology and Oncology Nursing Society exist that suggest best practices in the management of chemotherapy-induced diarrhea, best practices to identify and manage diarrhea symptoms in patients with MM are lacking.

Beth Faiman, PhD, CNP, is a nurse practitioner at the Cleveland Clinic in Ohio. The author takes full responsibility for the content of the article. Faiman has previously consulted for and has received support from Celgene, Takeda Pharmaceuticals, and Onyx Pharmaceuticals. The content of this article has been reviewed by independent peer reviewers to ensure that it is balanced, objective, and free from commercial bias. No financial relationships relevant to the content of this article have been disclosed by the independent peer reviewers or editorial staff. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Clinical Journal of Oncology Nursing or the Oncology Nursing Society. Faiman can be reached at faimanb@ccf.org, with copy to editor at CJONEditor@ons.org. (Submitted August 2015. Revision submitted October 2015. Accepted for publication October 20, 2015.)

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iarrhea is an often neglected and undertreated source of symptom distress in patients with multiple myeloma (MM) (Hoff et al., 2014; Muehlbauer et al., 2009). Reasons for diarrhea are multifactorial and can be related to chemotherapy, a weakened immune system, medications, nutritional supplements, psychological stress, infection, graft-versus-host disease (GVHD), or the cancer itself (Benson et al., 2004). Best practices in the management of diarrhea in patients with MM are conspicuously absent, but ineffective diarrhea management can lead to altered physiologic and psychological processes.

Physiologic consequences of mild diarrhea include electrolyte abnormalities, malabsorption of oral medications, and impaired nutritional status, and more severe symptoms can cause death (Benson et al., 2004; Hoff et al., 2014; Maroun et al., 2007; Muehlbauer et al., 2009; Sun, Wang, & Hu, 2012). Psychological consequences include social isolation, low self-esteem, anxiety, and hopelessness (Smith, Bertolotti, Curran, & Jenkins, 2008). Ineffective management of diarrhea not only leads to poor clinical outcomes, but also has a negative impact on quality of life, including alteration of roles, responsibilities, and interpersonal relationships, and may cause social isolation (Muehlbauer et al., 2009).