

Title:

Common Adverse Effects of Novel Therapies for Multiple Myeloma (MM) and Their Self-Management Strategies

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Session Title:

Rising Stars of Research and Scholarship Invited Student Poster Session 1

Slot (superslotted):

RSG STR 1: Friday, 28 July 2017: 10:00 AM-10:45 AM

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Keywords:

Multiple Myeloma, adverse effects and self-management strategies

References:

Dowling, M., Kelly, M., & Meenaghan, T. (2016). Multiple myeloma: Managing a complex blood cancer. *British Journal of Nursing*, 25(16). doi:10.12968/bjon.2016.25.s18

Melnyk, B.M., & Fineout-Overholt, E. (2011). *Evidence-based practice in nursing and healthcare: A guide to best practice* (2nded., p. 13). Philadelphia, PA: Lippincott Williams and Wilkins.

Moreau, P., Masszi, T., Grzasko, N., Bahlis, N. J., Hansson, M., Pour, L., . . . Richardson, P. G. (2016, April 28). Oral ixazomib, lenalidomide, and Dexamethasone for Multiple Myeloma. *New England Journal of Medicine*, 374(17), 1621-1634. doi:10.1056/nejmoa1516282

Orem, D. (1959). *Guides for developing curriculum for the education of practical nurses*. Washington, DC: U.S. Government Printing Office.

Whittemore R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546–553.

Abstract Summary:

MM has undergone a surge in novel therapies to treat the disease over the past decade. It is vital to educate patients on the common adverse effects of these new treatments, as well as the self-management strategies that can be implemented to maintain and promote their quality of life.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to identify at least three common adverse effects that occur in patients undergoing the novel therapies	Many adverse effects will be presented to the audience, each including an explanation of the appearance of the effect. The effects will be organized by the drug they are associated with to provide further information to the audience.

The learner will be able to list at least one management technique for each of the three adverse effects that they identified.	Management techniques that have been utilized in the past will be presented to the audience in detail. These techniques will be explained and examples will be highlighted of how some of the techniques were incorporated into practice.
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Abstract Text:

Background: Myeloma is a chronic B cells malignancy that affects differentiated plasma cells resulting to multiple organ damage (Dowling, Kelly, & Meenaghan, 2016). Over the past decade, there has been a surge of novel therapies to treat MM. This surge began with the introduction of intravenous proteasome inhibitor (PI), bortezomib in 2003, and has come as far as the introduction of the first oral PI, ixazomib (Moreau et al., 2016). This integrative literature review aims to describe the common adverse effects that patients may experience through treatment using the novel therapies. A secondary goal of the review is to appraise the strength of evidence of self-management strategies that have been reported to ameliorate these adverse effects. It is of utmost importance that nurses provide evidence-based patient education on self-management strategies in order to maintain and promote a good quality of life.

Theoretical framework: Orem's self care deficit theory (Orem, 1959) was utilized as the guiding framework for this integrative review given that the nurse will often be the one to provide care when a patient has a deficit in ability or knowledge. It is necessary, according to Orem, that the nurse not only provides care but also gives education to the patients on how to manage their disease state on their own.

Search Process: PubMed and CINAHL Complete databases search was performed. The following Medical Subject Heading (MeSH) terms and search details were used and the Boolean operator AND was utilized to get a highly relevant search yield: *Multiple Myeloma (MM) AND novel therapy AND adverse effects AND management*. CINAHL Complete search was completed using the following search terms: *Multiple Myeloma AND adverse effects AND management*. The search yielded 66 and 101 articles for PubMed and CINAHL Complete, respectively. Articles were included in the final analysis if they focused on MM, novel therapies, and reported adverse effects and self-management strategies. Year limit was between 2003 and 2016, and articles that focused on adverse effects of supportive therapies such as bisphosphonates or growth factors were excluded. Four articles were located utilizing the ancestry method, allowing the location of the most relevant literature. The final 36 articles used were categorized by level of evidence according to Melnyk and Fineout-Overholt's hierarchy of evidence (2011) to appraise the strength of evidence for reported self-management strategies.

Results: This integrative review included 36 articles that revealed novel treatment regimens utilized to treat MM have resulted in several common adverse effects reported by the patients. They include peripheral neuropathy, GI adverse effects (e.g., nausea, vomiting, constipation, and diarrhea), steroid-related adverse effects (e.g., mood alterations, insomnia, heartburn, and hiccups), sedation, thrombocytopenia, thromboembolism, anemia, neutropenia, myelosuppression, cutaneous rash, fatigue, infusion drug reactions, renal and cardiopulmonary complications, which are listed in Table 1.

There are many self-management strategies that correspond to the specific adverse events listed in Table 1. The majority (N=32 articles out of 34) of the self-management strategies reported to ameliorate the common adverse effects is based on single descriptive studies, review papers, or expert opinions in the form of a consensus statement from myeloma specialists, which are in the lowest levels in the hierarchy of evidence at Level 6 and 7, respectively. The use of aspirin, warfarin, and enoxaparin for VTE prophylaxis is the only strategy supported by level 2 evidence based on data from more than one randomized controlled trials. The use of antiemetic drugs, anti-diarrheal, laxative, blood transfusions, Erythrocyte Stimulating Agents, antibiotics, anti-virals, treatment dose adjustments and dose delays, monitoring and immediate reporting of adverse events such as peripheral neuropathy to health care team

are frequently used self-management strategies. Randomized controlled trials (RCTs) are lacking in the area of interventions for self-management strategies.

The findings from this ILR underscore the need for nursing interventions designed to prevent and treat adverse effects of novel therapies. These interventions need rigorous testing in the bedside. Providing an individualized evidence-based patient education to patients based on the treatment protocol is a vital component of providing care to those affected by MM. While the medications to treat MM have been revolutionized, treatment can only be considered successful if the patients undergoing the therapy are able to manage adverse effects successfully and continue to maintain and promote their own quality of life.