Case #2: MM therapy side effect management

Case Study

A Patient With Multiple Myeloma With Significant Fatigue During Therapy

C.D. is a 71-year-old man who was diagnosed with multiple myeloma (MM) six weeks ago. At the time of diagnosis, several comorbidities were noted

- Hypertension
- Type 2 diabetes
- Congestive heart failure.

All were well-controlled on medication, and he was actively followed by his internist. During his review of systems and examination, C.D. was found to have grade 2 peripheral sensory neuropathy (PSN) secondary to diabetes.

Peripheral Sensory Neuropathy Grading Scale				
Grade 1	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
Asymptomatic; loss of deep tendon reflexes or paresthesia	Moderate symptoms; limiting instrumental ADL	Severe symptoms; limiting self-care ADL	Life-threatening consequences; urgent intervention indicated	Death
ADL—activities of daily living *Note*. From *Common Terminology Criteria for Adverse Events* [v.4.03], by the National Cancer Institute Cancer Therapy Evaluation Program, 2010. Retrieved from http://evs.nci.nih.gov/ftp1/CTCAE/CTCAE_4.03_2010-06-14_QuickReference_5x7.pdf.				

C.D. was not eligible for stem cell transplantation and declined consideration for transplantation. He was interested in an oral treatment and was started on lenalidomide plus low-dose prednisone as his primary induction therapy.

Case #2: MM therapy side effect management

C.D., accompanied by his wife and son, come to the patient education center to meet with the nurse responsible for patient education for patients taking oral medications for cancer. She completes an assessment of C.D.'s current state of health, both physical and emotional, completes a listing of all medications and supplements, and obtains information to enroll C.D. in the safety program required for patients on lenalidomide (RevAssist®, Celegene Patient Support, http://www.revlimid.com/hcp/hcp-revassist.aspx). She also completes a learning assessment to evaluate any learning barriers such as comprehension, hearing, or visual. She also confirms that C.D. has no physical limitations such as inability to open medication bottles or manipulate medication or swallowing difficulties. He has no learning or physical limitations and is independent in taking his concomitant medications. She instructs C.D. and his family members that lenalidomide should not be handled by anyone other than C.D., especially by women who are pregnant or of childbearing capacity, which would include his daughter-in-law.

The nurse spends the next 10 minutes talking with C.D. and his family members about how to take lenalidomide and prednisone. The prescription will be transmitted electronically to a pharmacy that is registered through the RevAssist program, and C.D. will be required to complete questionnaires to ensure safety. He will only receive one cycle of lenalidomide at a time.

After confirming that C.D. understands the instructions to this point, they all take a brief break to relax, and the nurse resumes the patient education session with instructions on side effects. The side effects C.D. can expect during lenalidomide therapy include:

Case #2: MM therapy side effect management

- Deep vein thrombosis (DVT)
- Cytopenias (low blood counts)
- Diarrhea or constipation
- Rash
- Myalgia (muscle cramps)
- Fatigue
- Insomnia
- PSN.

C.D. has preexisting grade 2 PSN so the nurse reminds C.D. and his wife to monitor his PSN carefully and let the healthcare team know if his symptoms increase. Also, the prednisone will probably cause fluctuations in his blood glucose levels, so he should work closely with his internist to monitor and control his blood sugar levels. He is not on insulin at this time but insulin may become necessary at some point in the future.

C.D. begins his lenalidomide with low-dose prednisone therapy and has no problems with adherence, safety in the home, or symptomatic side effects until cycle 4. He has experienced the expected low blood counts, including anemia. When he presents for the beginning of cycle 5, his wife tells the nurse that C.D. has been avoiding social and family events because "He's just too tired. We used to take a walk every morning and again after dinner. Now he sits in the chair all day, falls asleep in his chair right after dinner and just has no pep." C.D. confirms his wife's assessment of the situation and says, "I just don't have any energy. I sleep all night and still

wake up tired. Sometimes I just don't think I can even get up the stairs to go to bed so I just sleep in my recliner all night."

Lenalidomide is an analogue of thalidomide, a drug that was originally developed in the 1950s as a sedative. Therefore, lenalidomide has sedating effects and also can cause significant fatigue (Celgene, 2010). Fatigue is defined as a disorder characterized by a state of generalized weakness with a pronounced inability to summon sufficient energy to accomplish daily activities (National Cancer Institute Cancer Therapy Evaluation Program, 2010). In addition, C.D. is experiencing anemia secondary to lenalidomide therapy. Anemia can also cause fatigue due to a decrease in oxygen supply to organs. His hemoglobin at today's visit is 9.2 gm/dL (normal range for men: 12.4–14.9 gm/dL). C.D.'s hematologist and nurse practitioner are concerned about using an erythropoietin-stimulating agent (ESA) because of the increased risk of DVT associated with both lenalidomide and ESAs (Rizzo et al., 2010). The nurse grades his fatigue as grade 3.

Fatigue Grading Scale

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Fatigue relieved by rest	Fatigue not relieved by rest, limited instrumental ADL	Fatigue not relieved by rest, limited self-care ADL	n/a	n/a

ADL—activities of daily living
Note. From *Common Terminology Criteria for Adverse Events* [v.4.03], by the National Cancer Institute Cancer Therapy Evaluation Program, 2010. Retrieved from http://evs.nci.nih.gov/ftp1/CTCAE/CTCAE_4.03_2010-06-14_QuickReference_5x7.pdf.

Interventions to Decrease Fatigue

Case #2: MM therapy side effect management

The nurse has a file on fatigue management. Included in the file is a document from the Oncology Nursing Society (ONS) Putting Evidence into Practice (PEP) Fatigue Web site. and guidelines from the National Comprehensive Cancer Network (2010). She sees a recommendation for exercise. She has already screened for contributing factors, noting that his blood sugar has been under control and that one of the medications C.D. takes for hypertension can cause fatigue. He has been taking this medication for many years and has not experienced this level of fatigue in the past. She calls the internist's office to ensure that no reasons exist that would prevent C.D. from resuming his walking regimen. The nurse notes the following interventions have been categorized in the PEP document as likely to be effective (ONS, 2009a):

- Energy conservation and activity management
- Providing education and information
- Measures to optimize sleep quality
- Relaxation
- Massage, healing touch, polarity therapy and haptoptherapy (touch therapy).

Because sleep issues may be causing or increasing C.D.'s fatigue, the nurse also accesses the ONS PEP Web site on sleep-wake disturbances (ONS, 2009b) and finds information on interventions to help resolve sleep disturbances.

The nurse talks with C.D. and his family about measures he can take to help decrease his fatigue and ways his family members can help. She recommends the following to C.D.

Case #2: MM therapy side effect management

- Take a gentle walk in the morning, after eating breakfast and checking your blood sugar. Make sure you're well hydrated and take water along if it's warm outside. Dress for the weather and wear comfortable shoes.
- Take another brief walk before dinner or at some point later during the day.
- Take a family member or friend with you on your walks. It will give you someone with whom to talk, enjoy the outdoors, and make you feel safer in case you become very tired.
- Try to avoid sleeping in your recliner. Perhaps find a different chair or sofa from which to watch television—that might interrupt the urge to sleep. If you are very tired, sleep in your bed.
- Try to maintain regular times to go to bed and to arise in the morning. Establishing or re-establishing a regular sleep cycle may decrease fatigue.
- Consider professional massage therapy.

For C.D.'s family members, the nurse makes the following suggestions.

- Make time to walk with C.D. when he asks, but he might want to walk alone sometimes. Respect his decision and need for quiet, private time.
- Encourage C.D. to get up and move around in the evenings when he's tempted to sit in his chair for a long period.
- Help C.D. re-establish a regular sleep routine.

- To C.D.'s wife, the nurse suggests giving C.D. backrubs or gentle massage of his legs or arms as a means of touch therapy. If they're uncomfortable with this, she can recommend a therapeutic massage professional.

C.D. remains on lenalidomide plus dexamethasone for nearly a year. His fatigue gradually resolves without the need for ESA management of his anemia. He rates his quality of life on the regimen as "very good" once his fatigue lessens, and he is able to resume activities with family and friends that gave him pleasure.

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Case #2: MM therapy side effect management

Resources

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