

# Managing Neutropenia in Older Patients With Cancer Receiving Chemotherapy in a Community Setting

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Older patients with cancer who may be more susceptible than younger patients to the myelosuppressive effects of chemotherapy undergo dose delays and reductions that can compromise treatment outcomes. Incidence of neutropenic complications and suboptimal chemotherapy delivery can be reduced with prophylactic colony-stimulating factors; however, their use in older patients with cancer has not been well studied. A randomized, multicenter, community-based trial was designed to compare prophylactic pegfilgrastim use (all cycles of chemotherapy) versus its more common reactive use (at clinicians' discretion) in patients aged 65 years or older with various cancers. Pegfilgrastim use in all cycles reduced the incidence of febrile neutropenia by about 60% and hospitalizations caused by neutropenia and febrile neutropenia by about 50% versus reactive pegfilgrastim use in later cycles. The study showed that older patients with cancer can be treated safely with optimal doses of chemotherapy with appropriate supportive care. Nurses, key collaborators in providing supportive care, can take an active role in identifying older patients who may benefit from pegfilgrastim in all cycles of chemotherapy.

Cancer affects a large number of older adults, with almost 67% of all cases reported in people aged 65 years or older (Jemal et al., 2005) and about 70% of cancer deaths occurring in this age group (Yancik & Ries, 2000). The number of people aged older than 65 has been projected to double from 2000–2030 (Yancik & Ries, 2000) and the burden of cancer in older adults likely will increase.

Gaining a complete picture of an older patient's health is critical to determining appropriate cancer treatment (Balducci & Extermann, 2000). A clinical profile cannot be determined by chronologic age alone. Psychological and physical well-being depend on many factors, including preexisting comorbidities, social support networks, living arrangements, and age-related changes in global bodily functions (Balducci & Extermann, 2000). Older patients with cancer may have preexisting conditions that can increase the likelihood of adverse events related to chemotherapy, such as decreases in renal function. Advanced age and comorbidities often are associated with slower bone marrow recovery following cytotoxic chemotherapy administration, which can increase the risk for neutropenia and neutropenic infection (Dale, 2003). A retrospective analysis of patients with non-Hodgkin lymphoma showed that the risk for febrile neutropenia in the first cycle of chemotherapy was twice as high in older patients than in younger patients (Lyman, Dale, & Crawford, 2003).

Neutropenia leading to infection is a major clinical dilemma that often requires hospitalization. Febrile neutropenia in

## At a Glance

- ◆ Older patients with cancer may undergo dose reductions and delays caused by febrile neutropenia (FN) because neutropenia prevention has not been well studied in this population.
- ◆ A randomized, multicenter, community-based trial showed that prophylactic use of pegfilgrastim reduced the incidence of FN, grade 3 or 4 neutropenia, and FN-related hospitalizations and antibiotic use in older patients with solid tumors or non-Hodgkin lymphoma; fewer dose reductions and delays also were observed in patients with solid tumors.
- ◆ Oncology nurses are in a unique position to use evidence-based guidelines and nursing-led initiatives to influence the decision to treat and prevent FN in older patients with cancer.

older adults may result in longer hospitalizations and increased risk for complications, including higher rates of inpatient mortality compared with younger adults (Caggiano, Weiss,

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