Hematopoietic Support With Moderately Myelosuppressive Chemotherapy Regimens: A Nursing Perspective

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The proactive use of granulocyte–colony-stimulating factors (G-CSFs) in patients with cancer treated with chemotherapy reduces the incidence of hospitalizations for febrile neutropenia (FN) as well as minimizes chemotherapy dose reductions and delays that could compromise treatment outcomes. In accordance with earlier economic analyses, the guidelines of the American Society of Clinical Oncology recommended the use of G-CSF in the first cycle only with chemotherapy regimens associated with a 40% or greater risk of FN. However, more recent guidelines by the National Comprehensive Cancer Network (NCCN) recommended that the use of G-CSF in the first cycle of chemotherapy be considered for patients at a 20% or higher risk of developing FN or other neutropenic complications. The results of a clinical trial, which led to NCCN’s recommendations, are reviewed in this article. Patients with breast cancer were treated with single-agent docetaxel, a regimen that is associated with a risk of approximately 20% for developing FN. The use of pegfilgrastim in all cycles of chemotherapy caused a significantly lower incidence of FN, fewer hospitalizations as a result of FN, and lowered use of IV anti-infectives than placebo. Thus, when assessing patients before treatment, nurses should consider discussing with the multidisciplinary team the use of growth factor support even with moderately myelosuppressive chemotherapy regimens.

At a Glance

✦ The proactive use of granulocyte–colony-stimulating factors (G-CSFs) in patients with cancer treated with myelosuppressive chemotherapy reduces neutropenic complications and allows for delivery of chemotherapy at full dose and on schedule.

✦ Recent economic analyses indicate that the cost of G-CSF is offset when the risk of febrile neutropenia is lower than 20%.

✦ In clinical trials, benefits of G-CSF have been observed with moderately myelosuppressive regimens associated with a risk of febrile neutropenia of approximately 20%.

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