

Elderly cancer patients receiving chemotherapy benefit from first-cycle pegfilgrastim.

Balducci L, Al-Halawani H, Charu V, et al. *Oncologist*. 2007;**12(12)**:1416-24.

Study overview: Elderly patients are considered to be at high risk from chemotherapy-induced toxicities such as chemotherapy-induced neutropenia and febrile neutropenia (FN).

Consequently, they often receive reduced doses of chemotherapy, potentially compromising treatment response and survival. When colony-stimulating factor (CSF) support is provided to elderly patients, it is often in response to neutropenia in a previous cycle, rather than as primary prophylaxis. This randomised controlled trial compared the incidence of FN in elderly cancer patients randomised to receive pegfilgrastim from the first cycle (primary prophylaxis arm), with that in patients randomised to receive pegfilgrastim in any subsequent cycle, at their physician's discretion (physician discretion arm). Participants were 852 cancer patients aged ≥ 65 years, receiving a range of chemotherapy regimens for either solid tumours (lung, breast or ovarian, total n = 343 per arm) or non-Hodgkin lymphoma (NHL; n = 73 per arm). The primary endpoint was the proportion of patients experiencing FN.

Key findings: Compared to the physician discretion arm, solid tumour patients receiving pegfilgrastim primary prophylaxis had a 60% lower incidence of FN across all cycles, a lower incidence of grade 3 or 4 neutropenia (30% of patients versus 80%), and fewer neutropenia-related hospitalisations (5% of patients versus 9%). NHL patients receiving pegfilgrastim primary prophylaxis had a 59% lower incidence of FN across all cycles and approximately 50% fewer neutropenia-related hospitalisations (17% of patients versus 37%), compared with the physician discretion arm. The incidence of grade 3 or 4 neutropenia among NHL patients was 82% in the primary prophylaxis arm and 90% in the physician discretion arm.

Patients with solid tumours who received primary prophylactic pegfilgrastim experienced fewer chemotherapy dose delays and dose reductions than patients in the physician discretion arm, and received fewer antibiotics to treat neutropenic events. Overall, the incidence of bone pain was low, although it was slightly higher in patients who received primary prophylaxis.

Conclusions: The authors concluded that CSF support should be provided proactively to elderly cancer patients to support the optimal delivery of chemotherapy.

<http://www.ncbi.nlm.nih.gov/pubmed/18165618?dopt=Citation>