Pegfilgrastim administered on the same day with dose-dense adjuvant chemotherapy for breast cancer is associated with a higher incidence of febrile neutropenia as compared to conventional growth factor support: matched case-control study of the Hellenic Cooperative Oncology Group.

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Source

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Abstract

OBJECTIVE:

Recombinant human granulocyte-colony-stimulating factors such as filgrastim and pegfilgrastim have been employed as primary and secondary prophylaxis against neutropenia in cancer patients receiving chemotherapy. This study was conducted to evaluate the rate of febrile neutropenia in patients with high-risk early breast cancer receiving dose-dense chemotherapy and, as primary prophylaxis, either pegfilgrastim 6 mg fixed dose on the same day as chemotherapy or filgrastim on days 2-10 of each cycle. Secondary objectives included the rate of severe neutropenia, treatment delays and dose reductions.

METHODS:

This was a nonrandomized matched case-control study with 214 patients receiving dose-dense chemotherapy. Each group receiving supportive therapy included 107 patients (pegfilgrastim and filgrastim groups).

RESULTS:

Fourteen patients (13%) in the pegfilgrastim group developed febrile neutropenia as compared to 1 patient (1%) in the filgrastim group ($p = 0.001$). No statistically significant differences regarding the rate of severe neutropenia, treatment delays and dose reductions were observed.

CONCLUSION:

The results demonstrate that pegfilgrastim administered as primary prophylaxis on the same day as dose-dense chemotherapy is less efficacious than filgrastim administered on days 2-10 of each chemotherapy cycle. For the particular regimens given in this retrospective matched case-control study, the current recommendation for administering pegfilgrastim at least 24 h after chemotherapy completion seems justified. However, further randomized controlled trials are needed to clarify this finding.