Pegfilgrastim Versus Filgrastim in the Supportive Care of Heavily Pretreated Multiple Myeloma in Treatment with Pomalidomide-Dexamethasone

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Context

Pegfilgrastim is a pegylated long-acting recombinant form of G-CSF that extends the half-life and allows for once-per-cycle dosing, requiring less frequent dosing than nonpegylated G-CSF.

Objective

The objective was to compare the efficacy and safety of pegfilgrastim in heavily pretreated MM, treated with pomalidomide-dexamethasone, in order to determine whether a single subcutaneous injection of pegfilgrastim is as effective as daily filgrastim.

Patients

57 patients (31 M and 26 F) were enrolled, median age at diagnosis 69 years (r. 52-84), and median age at start of treatment 76 years (r. 56-90) treated with several lines of treatments (median 7, r. 2-12), refractory to all drugs previously received. They received pomalidomide-dexamethasone (P 4 mg for 21 days, D 40 mg days 1, 8, 15, 22, pegfilgrastim day +8) every 28 days, until progression.

In the first course in domestic setting, patients' blood counts were drawn once weekly and they received, from day +8 to day +19, prophylactic oral chinolonic antibiotics and anti-fungal drugs. During neutropenia after first cycle, filgrastim (5 µgr/kg/day for 3 days) was given if neutrophils count was <1500 x 109 cells/L.

Median number of filgrastim administrations was 4.6 (r. 3-6); nadir neutropenia was registered after a median of 10.4 days (r. 7-14); median of nadir neutrophil count was 1.13 x 109 cells/L (r.0.3 – 1.5), with maximum duration of 14 days. For the second course, all patients switched to prophylaxis with pegfilgrastim (6 mg), injected subcutaneously with a single administration on day +3 independently from the neutrophil count at that time.

Results

During treatment with pegfilgrastim, neutropenia was never longer than 8 days, with a consequent reduction of neutropenia-related infections. Median nadir neutrophil count, evaluated for every patient for at least three courses of therapy (r. 3-6) registered at day +11, was 1.28 (r.0.9-2.2). Only 4 patients needed a supplement of 3 administrations of filgrastim. Pegfilgrastim was well tolerated in all patients: main side effects in our patients were mild fever and bone pain (21.2%).

Keywords: pegfilgrastim, multiple myeloma, relapsed, refractory, pomalidomide

Conclusions

In MM treated with pomalidomide-dexamethasone, pegfilgrastim seems to reduce the incidence of severe neutropenia and infections and may increase the possibility to maintain the scheduled time of treatment.

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