Aim: A biosimilar drug is an analogous drug of the biological licensed referenced drug. In this cohort, we aimed to study the effectiveness of the biosimilar and original filgrastim in patients with chemotherapy-induced neutropenia.

Methods: There were 337 patients in the national observational study. Patients receiving chemotherapy was enrolled in the study after neutropenia. Filgrastim, either original or biosimilar, was used.

Results: The average age was 53.15 ± 14.10 years, the median was 55.0 (min:19-max:85) years. There were 724 courses of drug application. 13.7% received one course of chemotherapy (CT), 45.5% received two courses of CT, 27.4% received three courses of CT, 11.4% received four courses of CT, and the rest received five courses of CT. The average neutrophil count was 0.4 before the filgrastim application and 3.0 afterwards. Biosimilar filgrastim 30 was applied to 61.9%, original filgrastim 30 to 8.9%, and original filgrastim 48 to 29.2%. Recovery in four days was observed in 60.1% of the patients receiving biosimilar filgrastim 30, 56.7% in original filgrastim 30, and 52.6% in original filgrastim 48. However, there was no statistically significant difference in the neutropenia recovery periods for all of the drugs (p > 0.05). There was also no statistically significant difference between biosimilar filgrastim 30 vs. original filgrastim 30 in the recovery periods (p > 0.05).

Conclusions: The biosimilar drug should be compared with the original drug in order to establish the same efficacy. The present study did not find any difference between the biosimilar and original filgrastim in patients with chemotherapy-induced neutropenia.

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