Acute severe diarrhea related to plerixafor use

Plerixafor kullanımı ile ilişkili şiddetli akut ishal

To the editor;

Plerixafor is the pure antagonist of chemokine receptor 4. It is used to mobilize CD34+ hematopoietic stem cells (HSC) in patients with multiple myeloma (MM) and non-Hodgkin lymphoma (NHL). Side effects develop with the use of plerixafor, in many systems, especially in the gastrointestinal system (1). Our literature search did not yield any results concerning acute severe diarrhea related to the use of plerixafor, hence we offer a perspective on this issue here.

The 42-year-old female patient with Diffuse Large B-Cell Lymphoma received 8 cures of R-CHOP. Then, she was administered 3 cures of R-ESHAP as salvage treatment. Following, autologous peripheral HSC mobilization was carried out with cyclophosphamide and G-CSF, but not enough CD-34+HSC could be attained. Then mobilization was enabled through the use of G-CSF and plerixafor with subcutaneous administration. The patient had nausea and vomiting on the first day and diarrhea for 10-15 times a day on the second day without fever or abdominal pain. Erythrocyte, leucocytes, the *Clostridium difficile* toxin were not observed in the stool sample, and no reproductions were detected in the stool culture. Anti-HIV was negative, IgA level was normal. Her complaints got better with the administration of 2 mg loperamide p.o. and normal saline solution. Following the elimination of other factors, it was concluded that the current diarrhea was related to plerixafor use.

CXCR4 regulates migration, differentiation and barrier maturation in model intestinal epithelium in culture. Plerixafor breaks the link between CXCR4 existent on CD34+HSC and SDF-1 on the bone marrow stromal cells (1,2). In literature, two patients (16.7%) had headache and dry mouth, and the rest were observed to have upper respiratory tract infections, cramps, gas, diarrhea with intravenous administration of plerixafor. Five side effects (cramps, gas, dryness of the mouth, abdominal distension, higher magnesium levels) were reported with subcutaneous administration (2). Tricot et al. (1) administered G-CSF and plerixafor to 20 patients with MM. They observed that 17 patients had erythema, 3 patients had reactions and 2 patients had itching on the injection spot and 3 patients had diarrhea, 2 patients had asthenia. In the study carried out by Dugan et al. (3) covering patients with MM and NHL, it was observed that 15 % of the patients had diarrhea, 22.5% had problems in the nervous system, and 12.5 % of them had erythema on the injection area.

Diarrhea may have a mortal progress in patients with immunosuppression and hematological malignities. The treatment protocol needs to be selected taking into consideration the other factors in diarrhea etiology as well. Although rare, plerixafor used in patients with autologous HSC transplantation should also be taken into consideration among these etiological factors when evaluating diarrhea.

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