



Summary of investigation results

Filgrastim, Lenograstim, Nartograstim

June 3, 2014

Non-proprietary Name

- a. Filgrastim (genetical recombination) (including follow-on biologics/biosimilars)
- b. Lenograstim (genetical recombination)
- c. Nartograstim (genetical recombination)

Brand Name (Marketing Authorization Holder)

- a. GRAN injection 75 µg, 150 µg, GRAN M 300 µg, GRAN SYRINGE 75 µg, 150 µg, GRAN SYRINGE M 300 µg (Kyowa Hakko Kirin Co., Ltd.) and the other follow-on biologics/biosimilars
- b. NEUTROGIN injection 50 µg, 100 µg, 250 µg (Chugai Pharmaceutical Co., Ltd.)
- c. Neu-up injection 25 µg, 50 µg, 100 µg, 250 µg (Yakult Honsha Co., Ltd.)

Indications

- a. GRAN
 - Mobilization of haematopoietic stem cells into peripheral blood
 - Acceleration of an increase of neutrophil count in haematopoietic stem cells transplantation
 - Cancer chemotherapy-induced neutropenia
 - Neutropenia that precludes treatment for human immunodeficiency virus (HIV) infection
 - Neutropenia in myelodysplastic syndrome
 - Neutropenia in aplastic anaemia
 - Congenital or idiopathic neutropenia
- b. NEUTROGIN
 - Mobilization of haematopoietic stem cells into peripheral blood



- Acceleration of an increase of neutrophil count in haematopoietic stem cells transplantation
 - Cancer chemotherapy-induced neutropenia
 - Neutropenia in myelodysplastic syndrome
 - Neutropenia in aplastic anaemia
 - Congenital or idiopathic neutropenia
 - Neutropenia that precludes treatment for HIV infection
 - Neutropenia in immunosuppressive therapy (renal transplant)
- c. Neu-up
- Acceleration of an increase of neutrophil count in bone marrow transplant
 - Cancer chemotherapy-induced neutropenia
 - Neutropenia in pediatric aplastic anaemia
 - Congenital or idiopathic neutropenia

Summary of revision

‘Capillary leak syndrome’ should be added in Clinically significant adverse reactions section.

Background of the revision and investigation results

Summaries of product characteristics of filgrastim (genetical recombination) and lenograstim (genetical recombination) have been updated in Europe. Cases of capillary leak syndrome have been reported in patients treated with filgrastim or lenograstim in Japan. Following an investigation result based on opinions of expert advisors and available evidence, the MHLW/PMDA concluded that revision of the package inserts of filgrastim and lenograstim was necessary. The MHLW/PMDA also concluded that revision of the package insert of nartograstim was necessary because capillary leak syndrome may occur in patients treated with nartograstim.

The number of reported adverse reaction and fatal cases in the last 3 fiscal years

No capillary leak syndrome-associated cases have been reported in patients treated with filgrastim, lenograstim or nartograstim in Japan.