Drug Class Monograph

Class: White Blood Cell Growth Factors
Drugs: filgrastim (Neupogen), filgrastim-sndz (Zarxio), pegfilgrastim (Neulasta), tbo-filgrastim (Granix)
Formulary Medications: filgrastim-sndz (Zarxio), tbo-filgrastim (Granix)
Line of Business: Non-Medicare
Effective Date: February 17, 2016
Renewal Date: August 17, 2016

This policy has been developed through review of medical literature, consideration of medical necessity, generally accepted medical practice standards, and approved by the IEHP Pharmacy and Therapeutics Subcommittee.

Policy/Criteria:

1. Filgrastim-sndz (Zarxio), tbo-filgrastim (Granix)
   a. Restricted to hematologist, oncologist or HIV/infectious disease specialist
   b. Quantity limit:
      ▪ 14 syringes per 30-day period
   c. Requests that do not meet the above criteria will be reviewed by MCAL pharmacist(s) for medical necessity based on the following:
      ▪ The indication is FDA approved or supported by standard pharmacopeias
      ▪ Clinical justification that demonstrates medical necessity of quantities greater than quantity limit

2. Filgrastim (Neupogen), Pegfilgrastim (Neulasta)
   a. Must be prescribed by hematologist, oncologist or HIV/infectious disease specialist
   b. Inadequate response or clinically significant adverse effects to Zarxio or Granix
   c. The indication is FDA approved (off label indications will be reviewed by MCAL pharmacist(s) for medical necessity)
   d. Quantity limit:
      ▪ Neupogen: 14 vials/syringes per 30-day period
      ▪ Neulasta: 2 syringes per 30-day period
Clinical Justification:

Comparison of FDA-Approved Indications

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<thead>
<tr>
<th>Condition</th>
<th>Neupogen (filgrastim)</th>
<th>Granix (tbo-filgrastim)</th>
<th>Zarxio (filgrastim-sndz)</th>
<th>Neulasta (peg-filgrastim)</th>
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<tbody>
<tr>
<td>Myelosuppressive chemotherapy recipients with nonmyeloid malignancies</td>
<td>X</td>
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<td>Acute myeloid leukemia following induction or consolidation chemotherapy</td>
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<td>Bone marrow transplantation</td>
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<td>Hematopoietic syndrome of acute radiation syndrome (acute myelosuppressive doses of radiation)</td>
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<td>Peripheral blood progenitor cell collection and therapy</td>
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<td>Severe chronic neutropenia</td>
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2015 American Society of Clinical Oncology Clinical Practice Guideline Update: Recommendation for the use of WBC Growth Factors

- Pegfilgrastim, filgrastim, tbo-filgrastim, and filgrastim-sndz (and other biosimilars, as they become available) can be used for the prevention of treatment-related febrile neutropenia. The choice of agent depends on convenience, cost, and clinical situation. There have been no additional data comparing granulocyte CSFs and granulocyte-macrophage CSFs since the 2006 update; therefore, there is no change in the recommendation regarding their therapeutic equivalency.

- Primary prophylaxis with a CSF starting with the first cycle and continuing through subsequent cycles of chemotherapy is recommended in patients who have an approximately 20% or higher risk for febrile neutropenia based on patient-, disease- and treatment-related factors. Primary CSF prophylaxis should also be administered in patients receiving dose-dense chemotherapy when considered appropriate.

- Secondary prophylaxis with a CSF is recommended for patients who experienced a neutropenic complication from a prior cycle of chemotherapy (for which primary prophylaxis was not received), in which a reduced dose or treatment delay may compromise disease-free or overall survival or treatment outcome. In many clinical situations, dose reduction or delay may be a reasonable alternative.

- CSFs should not be routinely used for patients with neutropenia who are afebrile.

- CSFs should not be routinely used as adjunctive treatment with antibiotic therapy for patients with fever and neutropenia. However, CSFs should be considered in patients with fever and
neutropenia who are at high risk for infection-associated complications or who have prognostic factors predictive of poor clinical outcomes.

- Dose-dense regimens with CSF support should only be used if supported by convincing efficacy data or within an appropriately designed clinical trial. Efficacy data support the use of dose-dense chemotherapy in the adjuvant treatment of high-risk breast cancer and the use of high-dose intensity methotrexate, vinblastine, doxorubicin, and cisplatin in urothelial cancer.

- CSFs may be used alone, after chemotherapy, or in combination with plerixafor to mobilize peripheral-blood progenitor cells. Choice of mobilization strategy depends in part on type of cancer and type of transplantation.

- CSFs should be administered after autologous stem-cell transplantation to reduce the duration of severe neutropenia.

- CSFs may be administered after allogeneic stem-cell transplantation to reduce the duration of severe neutropenia.

- Prophylactic CSFs for patients with diffuse aggressive lymphoma age ≥ 65 years treated with curative chemotherapy (cyclophosphamide, doxorubicin, vincristine, prednisone, and rituximab) should be considered, particularly in the presence of comorbidities.

- The use of CSFs in pediatric patients will almost always be guided by clinical protocols. As in adults, the use of CSFs is reasonable as primary prophylaxis for pediatric patients with a high likelihood of febrile neutropenia. Similarly, the use of CSFs for secondary prophylaxis or for therapy should be limited to high-risk patients.

- For pediatric indications in which dose-intense chemotherapy is known to have a survival benefit, such as Ewing sarcoma, CSFs should be used to enable the administration of these regimens.

- CSFs should not be administered after allogeneic stem-cell transplantation.

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- For pediatric indications in which dose-intense chemotherapy is known to have a survival benefit, such as Ewing sarcoma, CSFs should be used to enable the administration of these regimens.

- CSFs should not be used in pediatric patients with nonrelapsed acute lymphoblastic leukemia or nonrelapsed acute myeloid leukemia who do not have an infection.

- Current recommendations for the management of patients exposed to lethal doses of total-body radiotherapy, but not doses high enough to lead to certain death resulting from injury to other organs, include the prompt administration of CSFs or pegylated granulocyte CSFs.

References:


