Reference number(s)
4458-A

STANDARD MEDICARE PART B MANAGEMENT

LEUKINE (sargramostim)

POLICY

I. INDICATIONS

The indications below including FDA-approved indications and compendial uses are considered a covered benefit provided that all the approval criteria are met and the member has no exclusions to the prescribed therapy.

A. FDA-Approved Indications
1. Acute Myeloid Leukemia Following Induction Chemotherapy
   Leukine is indicated to shorten time to neutrophil recovery and to reduce the incidence of severe, life-threatening, or fatal infections following induction chemotherapy in adult patients 55 years and older with acute myeloid leukemia (AML).
2. Autologous Peripheral Blood Progenitor Cell Mobilization and Collection
   Leukine is indicated in adult patients with cancer undergoing autologous hematopoietic stem cell transplantation for the mobilization of hematopoietic progenitor cells into peripheral blood for collection by leukapheresis.
3. Autologous Peripheral Blood Progenitor Cell and Bone Marrow Transplantation
   Leukine is indicated for acceleration of myeloid reconstitution following autologous peripheral blood progenitor cell (PBPC) or bone marrow transplantation in adult and pediatric patients 2 years of age and older with non-Hodgkin's lymphoma (NHL), acute lymphoblastic leukemia (ALL) and Hodgkin's lymphoma (HL).
4. Allogeneic Bone Marrow Transplantation (BMT)
   Leukine is indicated for acceleration of myeloid reconstitution in adult and pediatric patients 2 years of age and older undergoing allogeneic BMT from human leukocyte antigens (HLA)-matched related donors.
5. Allogeneic or Autologous Bone Marrow Transplantation: Treatment of Delayed Neutrophil Recovery or Graft Failure
   Leukine is indicated for the treatment of adult and pediatric patients 2 years and older who have undergone allogeneic or autologous BMT in whom neutrophil recovery is delayed or failed.
6. Acute Exposure to Myelosuppressive Doses of Radiation (H-ARS)
   Leukine is indicated to increase survival in adult and pediatric patients from birth to 17 years of age acutely exposed to myelosuppressive doses of radiation (Hematopoietic Syndrome of Acute Radiation Syndrome [H-ARS]).

B. Compendial Uses
1. Prophylaxis and treatment of chemotherapy-induced febrile neutropenia in non-myeloid malignancies
2. Treatment of neutropenia and anemia in patients with myelodysplastic syndromes (MDS)
3. Acute myeloid leukemia
4. Agranulocytosis (non-chemotherapy drug induced)
5. Aplastic anemia
6. Neutropenia related to HIV/AIDS
7. Stem cell transplantation-related indications
8. Neuroblastoma
9. Severe chronic neutropenia (congenital, cyclic, or idiopathic)

10. Crohn's disease
11. Malignant melanoma
12. Pulmonary alveolar proteinosis
13. Rhinocerebral mucormycosis
14. Hepatitis B vaccination, response enhancement
15. Metastatic renal cell carcinoma

All other indications will be assessed on an individual basis. Submissions for indications other than those enumerated in this policy should be accompanied by supporting evidence from Medicare approved compendia.

II. DOCUMENTATION

The following documentation must be available, upon request, for all submissions:
Primary Prophylaxis of Febrile Neutropenia
Documentation must be provided of the member's diagnosis and chemotherapeutic regimen.

III. CRITERIA FOR INITIAL APPROVAL

A. Neutropenia in cancer patients receiving myelosuppressive chemotherapy

Authorization of 6 months may be granted for prevention or treatment of febrile neutropenia when all of the following criteria are met (1, 2, and 3):

1. The requested medication will not be used in combination with other colony stimulating factors within any chemotherapy cycle.
2. The member will not be receiving chemotherapy and radiation therapy at the same time.
3. One of the following criteria is met (i or ii):
   i. The requested medication will be used for primary prophylaxis or secondary prophylaxis of febrile neutropenia in members with solid tumors or non-myeloid malignancies.
   ii. The requested medication will be used for treatment of high-risk febrile neutropenia (FN) in members who have any of the following prognostic factors that are predictive of clinical deterioration:
      a. Age greater than 65 years
      b. Being hospitalized at the time of the development of fever
      c. Sepsis syndrome
      d. Invasive fungal infection
      e. Pneumonia or other clinically documented infection
      f. Prolonged (neutropenia expected to last greater than 10 days) or profound (absolute neutrophil count less than 0.1 x 10^9/L) neutropenia
      g. Prior episodes of febrile neutropenia

B. Neuroblastoma

Authorization of 6 months may be granted for treatment of high-risk neuroblastoma when used with either of the following:

1. Dinutuxin (Unituxin), interleukin-2 (aldesleukin [Proleukin]), and isotretinoin (13-cis-retinoic acid [RA])
2. Naxitamab-gqgk (Danyelza)

C. Malignant melanoma

Authorization of 6 months may be granted for the treatment of malignant melanoma when used in either of the following settings:

1. For metastatic melanoma in combination with temozolomide, interferon-alfa 2b, and interleukin-2.

2. As adjuvant therapy in stage III or stage IV disease

D. Other indications

Authorization of 6 months may be granted for members with any of the following indications:

1. Myelodysplastic syndrome (anemia or neutropenia)
2. Acute myeloid leukemia
3. Agranulocytosis (non-chemotherapy drug induced)
4. Aplastic anemia
5. Neutropenia related to HIV/AIDS
6. Stem cell transplantation-related indications
7. Severe chronic neutropenia (congenital, cyclic, or idiopathic)
8. Hematopoietic Syndrome of Acute Radiation Syndrome:
   Treatment for radiation-induced myelosuppression following a radiological/nuclear incident
9. Moderately to severely active Crohn's disease
10. Pulmonary alveolar proteinosis
11. Rhinocerebral mucormycosis
12. Hepatitis B vaccination response enhancement
13. Renal cell carcinoma with pulmonary metastases when used with Interleukin-2 therapy

IV. CONTINUATION OF THERAPY

All members (including new members) requesting authorization for continuation of therapy must be currently receiving therapy with the requested agent.

A. Authorization of 6 months may be granted for the treatment of renal cell carcinoma when all of the following criteria are met:
   1. The member is currently receiving therapy with Leukine.
   2. The member is receiving benefit from therapy. Benefit is defined as:
      i. No evidence of unacceptable toxicity while on current regimen
      ii. No evidence of disease progression while on the current regimen.

B. Authorization of 6 months may be granted for the treatment of pulmonary alveolar proteinosis when all of the following criteria are met:
   1. The member is currently receiving therapy with Leukine.
   2. The member is receiving benefit from therapy.

C. For all other diagnoses, all members (including new members) requesting authorization for continuation of therapy must meet all initial authorization criteria.

V. REFERENCES

1. Leukine [package insert]. Lexington, MA: Partner Therapeutics, Inc.; May 2018.
2. The NCCN Drugs & Biologics Compendium® © 2021 National Comprehensive Cancer Network, Inc. Available at: http://www.nccn.org. Accessed June 105, 2021.
3. IBM Micromedex® DRUGDEX ® (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. Available at https://www.micromedexsolutions.com. (Accessed: June 10,2021).
4. Lexicomp Online, AHFS DI (Adult and Pediatric) [database online]. Hudson, OH: Wolters Kluwer Clinical Drug Information, Inc.; Accessed June 10, 2021.

5. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Hematopoietic Growth Factors. Version 4.2021. https://www.nccn.org/professionals/physician_gls/pdf/growthfactors.pdf Accessed June 10, 2021.
6. Smith TJ, Bohlke K, Lyman GH, et al. Recommendations for the use of white blood cell growth factors: American Society of Clinical Oncology Clinical Practice Guideline Update. *J Clin Oncol*. 2015;33(28):3199-3212.
7. Smith TJ, Khatcheressian J, Lyman GH, et al. 2006 update of recommendations for the use of white blood cell growth factors: an evidence-based clinical practice guideline. *J Clin Oncol.* 2006;24(19):3187-3205.
8. Danyelza [package insert]. New York, NY: Y-mAbs Therapeutics, Inc.; November 2020.
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