23. DARBEPOETIN ALPHA

Class: Colony Stimulating Factor;Erythropoiesis-Stimulating Agent (ESA);Growth Factor;Recombinant Human Erythropoietin

Indications: Treatment of anemia due to concurrent myelosuppressive chemotherapy in patients with cancer (nonmyeloid malignancies) receiving chemotherapy (palliative intent) for a planned minimum of 2 additional months of chemotherapy; treatment of anemia due to chronic kidney disease (including patients on dialysis and not on dialysis)

Unlabeled : Treatment of symptomatic anemia in myelodysplastic syndrome (MDS)

Dosage:

- **Anemia associated with chronic kidney disease (CKD):** Individualize dosing and use the lowest dose necessary to reduce the need for RBC transfusions.

-Chronic kidney disease patients **ON dialysis** (I.V. route is preferred for hemodialysis patients; initiate treatment when hemoglobin is <10 g/dL; reduce dose or interrupt treatment if hemoglobin approaches or exceeds 11 g/dL): I.V., SubQ: Initial: 0.45 mcg/kg once weekly **or** 0.75 mcg/kg once every 2 weeks **or** epoetin alfa doses of <1500 to ≥90,000 units per week may be converted to doses ranging from 6.25-200 mcg darbepoetin alfa per week (see adult column in conversion table below).

-Chronic kidney disease patients **NOT on dialysis** (consider initiating treatment when hemoglobin is <10 g/dL; use only if rate of hemoglobin decline would likely result in RBC transfusion and desire is to reduce risk of alloimmunization or other RBC transfusion-related risks; reduce dose or interrupt treatment if hemoglobin exceeds 10 g/dL): I.V., SubQ: Initial: 0.45 mcg/kg once every 4 weeks

-Dosage adjustments for chronic kidney disease patients (either on dialysis or not on dialysis): Do not increase dose more frequently than every 4 weeks (dose decreases may occur more frequently).

-If hemoglobin increases >1 g/dL in any 2-week period: Decrease dose by ≥25%

-If hemoglobin does not increase by >1 g/dL after 4 weeks: Increase dose by 25%

-Inadequate or lack of response: If adequate response is not achieved over 12 weeks, further increases are unlikely to be of benefit and may increase the risk for adverse events; use the minimum effective dose that will maintain a hemoglobin level sufficient to avoid red blood cell transfusions **and** evaluate patient for other causes of anemia; discontinue treatment if responsiveness does not improve

-Anemia due to chemotherapy in cancer patients: Initiate treatment only if hemoglobin <10 g/dL and anticipated duration of myelosuppressive chemotherapy is ≥2 months. Titrate dosage to use the minimum effective dose that will maintain a hemoglobin level sufficient to avoid red blood cell transfusions. Discontinue darbepoetin following completion of chemotherapy.

SubQ: Initial: 2.25 mcg/kg once weekly **or** 500 mcg once every 3 weeks until completion of chemotherapy.

Dosage adjustments:

-Increase dose: If hemoglobin does not increase by 1 g/dL **and** remains below 10 g/dL after initial 6 weeks (for patients receiving weekly therapy only), increase dose to 4.5 mcg/kg once weekly (no dosage adjustment if using every 3 week dosing).

- Reduce dose by 40% if hemoglobin increases >1 g/dL in any 2-week period **or** hemoglobin reaches a level sufficient to avoid red blood cell transfusion.

-Withhold dose if hemoglobin exceeds a level needed to avoid red blood cell transfusion. Resume treatment with a 40% dose reduction when hemoglobin approaches a level where transfusions may be required.

-Discontinue: On completion of chemotherapy or if after 8 weeks of therapy there is no hemoglobin response or RBC transfusions still required

-Symptomatic anemia associated with MDS (unlabeled use): SubQ: 150-300 mcg once weekly

Available dosage form in the hospital: 300MCG PFS, 40MCG PFS

Common side effect: >10%: Cardiovascular: Hypertension (31%), peripheral edema (17%), edema (6% to 13%), Gastrointestinal: Abdominal pain (10% to 13%), Respiratory: Dyspnea (17%), cough (12%)

Pregnancy Risk Factor: C