Dpoetin™

Darbepoetin Alfa Injection 25 µg, 40 µg, 60 µg

Raise & Sustain Hb Level

Product Description:

- Dpoetin25: Each prefilled syringe of 0.42 ml contains Darbepoetin Alfa 25 mcg
- Dpoetin40: Each prefilled syringe of 0.40 ml contains Darbepoetin Alfa 40 mcg
- Dpoetin60: Each prefilled syringe of 0.3 ml contains Darbepoetin Alfa 60 mcg

General Information:

Darbepoetin Alfa is an erythropoiesis-stimulating protein that is produced in Chinese hamster ovary (CHO) cells byrecombinant DNA technology.
Darbepoetin Alfa is a 165-amino acid protein that differs from recombinant humanerythropoietin in containing 5 N-linked oligosaccharide chains, whereas recombinant human erythropoietincontains 3 chains. The 2 additional N-glycosylation sites result from amino acid substitutions in the erythropoietinpeptide backbone.

Indication & Usage:

1- **Anemia Due to Chronic Kidney Disease**
Dpoetin is indicated for the treatment of anemia due to chronic kidney disease (CKD), including patients on dialysisand patients not on dialysis.

2- **Anemia Due to Chemotherapy in Patients with Cancer**
Dpoetin is indicated for the treatment of anemia in patients with non-myeloid malignancies where anemia is due tothe effect of concomitant myelosuppressive chemotherapy, and upon initiation, there is a minimum of two additionalmonths of planned chemotherapy.

Dosage and Administration:

For adult patients with CKD on dialysis:

- Initiate Dpoetin treatment when the haemoglobin level is less than 10 g/dL.

- If the haemoglobin level approaches or exceeds 11 g/dL, reduce or interrupt the dose of Dpoetin
- The recommended starting dose is 0.45 mcg/kg intravenously or subcutaneously as a weekly injection or 0.75 mcg/kg once every 2 weeks as appropriate. The intravenous route is recommended for patients on haemodialysis.

For Adult patients with CKD not on dialysis:
The recommended starting dose is 0.45 mcg/kg body weight intravenously or subcutaneously given once at four-week intervals as appropriate.

For Paediatric patients with CKD:

The recommended starting dose for pediatric patients (less than 18 years) is 0.45 mcg/kg body weight administered as a single subcutaneous or intravenous injection once weekly; patients not receiving dialysis may be initiated at a dose of 0.75 mcg/kg once every 2 weeks.

Dosage forms and strengths:

Dpoetin is a clear, colourless solution available as:Single-dose prefilled syringes

• Injection: 25 mcg/0.42 mL, 40 mcg/0.4 mL, 60 mcg/0.3 mL

Mechanism of action:

Darbepoetin Alfa is an erythropoiesis protein, similar to a natural substance in the body called erythropoietin, which is produced by the kidneys. Erythropoietin is then carried through the bloodstream to the bone marrow to make more red blood cells. Darbepoetin Alfa acts like this natural substanceerythropoietin.

Pharmacokinetic:

Intravenous Administration: IV administration of darbepoetin to patients with CKD receiving dialysis, darbepoetin serumconcentration-time profiles were biphasic, with a meanterminal half-life (t1/2) of 21 hours. The t1/2 of darbepoetin was approximately 3-fold longer than that of epoetin alfawhen administered intravenously.

Subcutaneous administration: In patients with CKD (receiving or not receiving dialysis),absorption was slow and Cmax occurred at 48 hours (range: 12 to 72 hours). In patients with CKD receiving dialysis, the average t1/2 was 46 hours, and in patients with CKD not receiving dialysis, the average t1/2 was 70 hours.
The bioavailability of darbepoetin in patients with CKD receiving dialysis after subcutaneous administration was 37% (range: 30% to 50%).

Use in Specific Population:

Pregnancy: There is limited available data of darbepoetin use in pregnant women which is insufficient to determine a drug-associated risk of major birth defects or miscarriage. Consider the benefits and risks of darbepoetin for the mother and possible risks to the fetus when prescribing darbepoetin to a pregnant woman

Nursing Mother: There is no information regarding the presence of darbepoetin in human milk, the effects on the breastfed child, or the effects on milk production. Consider the benefits and risks of darbepoetin for the nursing mother and possible risks to her child when prescribing darbepoetin.

Paediatric Use: The safety and effectiveness of darbepoetin in pediatric patients with CKD receiving and not receiving dialysis havebeen established in the age groups 1 month to 16 years old.
No data are available in paediatric patients less than 1month old.
Darbepoetin safety and efficacy were similar between adults and pediatric patients with CKD receiving and not receiving dialysis when darbepoetin was used for initial treatment of anaemia.

The safety and efficacy of darbepoetin in pediatric patients with cancer have not been established.

Geriatric Use: No differences in safety or efficacy were observed between older and younger patients.

Contraindication: Dpoetin is contraindicated in patients with:

- Uncontrolled hypertension
- Pure red cell aplasia (PRCA) that begins after treatment with Dpoetin or other erythropoietin protein drugs
- Serious allergic reactions to Dpoetin

Warning & Precaution:

Increased Mortality, Myocardial Infarction, Stroke, and Thromboembolism: Patients with CKD comparing higher haemoglobin targets (13 -14 g/dL) to lower targets (9 - 11.3 g/dL), Dpoetin and other ESAs increased the risk of death, myocardial infarction, stroke, congestive heart failure, thrombosis of haemodialysis vascular access, and other thromboembolic events in the higher target groups
.
HypertensionDpoetin is contraindicated in patients with uncontrolled hypertension. Appropriately control hypertension prior to initiation of and during treatment with Dpoetin. Reduce or withhold Dpoetin if blood pressure becomes difficult to control. Advise patients of the importance of compliance with antihypertensive therapy and dietary restrictions
Seizures: Dpoetin increases the risk of seizures in patients with CKD. During the first several months following initiation of Dpoetin, monitor patients closely for premonitory neurologic symptoms.

Serious Allergic Reactions
Serious allergic reactions, including anaphylactic reactions, angioedema, bronchospasm, skin rash, and urticaria may occur with Dpoetin.

Dialysis Management
Patients may require adjustments in their dialysis prescriptions after initiation of Dpoetin. Patients receiving Dpoetin may require increased anticoagulation with heparin to prevent clotting of the extracorporeal circuit during haemodialysis.

Adverse Reactions:

Most common adverse drug reaction are as follows

- Increased Mortality, Myocardial Infarction, Stroke, and Thromboembolism
- Increased Mortality and/or Increased Risk of Tumour Progression or Recurrence in Patients with Cancer

- Hypertension
- Seizures
- PRCA
- Serious allergic reactions
- Severe Cutaneous Reactions