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IRON DEFICIENCY ANEMIA



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and the rate of iron absorption. Reticulocyte count will start to increase in 4-7 days after the initiation of treatment and reaches to peak at 1- 1 and ½ weeks. The lack of response is might be due to poor absorption, noncompliance or wrong diagnosis. IRON TOLERANCE TEST is used clinically to determine the patient's ability to iron absorption. Two oral iron tablets are given on empty stomach to the patient and the serum iron is measured for every 2-3 hours, normally 100 microgram/dl will be increased in serum iron level if no defect in absorption. Parenteral iron therapy is required if the iron deficiency anemia persists inspite of adequate oral iron treatment.

- 3) **PARENTERAL IRON THERAPY:** parenteral iron therapy can be given to patients with noncompliance, persistent gastrointestinal bleeding or menstrual blood loss, who needs immediate intervention, malabsorption. Parenteral preparations include- recombinant erythropoietin, for a large demand of iron which cannot be met by physiological release of iron from RE stores or oral absorption. There are adverse reaction rates to high molecular weight dextran.

New iron complexes as mentioned below have low rates of adverse effects.

- ferumoxytol (Feraheme)
- sodium ferric gluconate(ferrlecit)
- iron sucrose(venofer)
- low-molecular weight(LMW) iron dextran(InFed)
- ferric carboxymaltose (Injectafer)

ferumoxytol delivers 510mg of iron per injection, ferric gluconate delivers 125 mg per injection, LMW iron dextran delivers 1500mg, ferric carboxymaltose delivers 750mg per injection and iron sucrose delivers 200mg per injection.

Parenteral iron is utilized in two ways:

- 1) Administering total dose of iron required for correcting the haemoglobin deficit and providing the patient with 500mg for iron stores.
- 2) Repeated doses in small amounts for a particular period, common in dialysis centres where 100mg of elemental iron is given weekly once for 10 weeks to increase the response to recombinant erythropoietin(EPO) therapy.

The amount of iron required is calculated by the below formula for individual patient

Body weight (kg) x 2.3 x (15 – patient's haemoglobin in g/dl) + 500 or 1000 mg for stores.

Anaphylaxis is a concern with intravenous iron preparations and much lower with the new iron preparations. Patient gives a history of multiple allergies or prior allergic reaction to intravenous iron administration. Patient also gives complaints of arthralgias, skin rash, low-grade fever which appear after several days of large dose of iron administration. These reactions might be dose related and doesn't prevent patient from further treatment with intravenous preparations. If patient is allergic to one iron preparation other I.V. iron preparations can be given safely. Large doses of LMW iron dextran(>100mg) should be given diluted with 5% dextrose or 0.9% NaCl solution and the infusion should be given for 60-90 minutes or at a convenient rate. 25mg of test dose should be given for LMW iron dextran. Slow infusion shows same warning effect as the injected test dose. If chest pain, fall in blood pressure, wheezing other systemic symptoms occur the infusion should be stopped immediately.