Medifer 50mg/5ml

Pharmaceutical form: Oral syrup.

Composition: active substance: 178.6 mg iron (III) polymaltose hydroxide polymaltose complex, in terms of iron 50 mg.

Excipients: methylparahydroxybenzoate, propylparahydroxybenzoate, sorbitol, sucrose, citric acid monohydrate, caramel flavor, ethanol 96%, purified water.

Pharmacological group: iron drug.

Pharmacodynamics:

In the iron(III)-hydroxide polymaltose complex, the polynuclear iron (III)-hydroxide core is superficially surrounded by a number of non-covalently bound polymaltose molecules resulting in an overall average molecular weight of approximately 50 kDa. The structure of polynuclear core of iron (III)-hydroxide polymaltose complex has a similar with the core structure of the ferritin protein - the physiological depo of iron. Iron(III)-hydroxide polymaltose complex is a stable complex and does not release large amounts of iron under physiological conditions. Because of its size, the extent of diffusion of iron(III)-hydroxide polymaltose complex through the membrane of the mucosa is about 40 times less than that of the hexaquo iron(II) complex.

Iron from iron (III) polymaltose hydroxide complex is actively absorbed in the intestine.

The effectiveness of the drug in normalizing the content of hemoglobin (Hb) and replenishing the iron depo has been demonstrated in numerous randomized controlled clinical trials using placebo control or an active comparator conducted in adults and children with various iron depo status.

Pharmacokinetics:

Iron from iron (III) polymaltose hydroxide is absorbed in accordance with a controlled mechanism. The increase in serum iron after the use of the drug does not correlate with the total absorption of iron, measured as incorporation into hemoglobin (Hb). The maximum activity of iron absorption from iron (III) hydroxide polymaltosate occurs in the duodenum and small intestine.

Indications:

Treatment of iron deficiency without anemia (latent iron deficiency) and symptomatic iron deficiency anemia.

Contraindications:

- known hypersensitivity to iron (III) hydroxide polymaltose complex or any of the excipients
- iron overload (e.g., hemosiderosis, hemochromatosis);
- impairment of iron utilization (e.g., lead anemia, sideroachrestic anemia, thalassemia);

- anemia other than iron deficiency anemia (e.g., haemolytic anemia, megaloplastic anemia due to vitamin B12 deficiency);
- sucrase / isomaltase deficiency, fructose intolerance, glucose-galactose malabsorption.

With attention

Contains ethanol, so the drug is prescribed with caution to patients with liver disease, alcoholism, traumatic brain injury or brain diseases.

Warnings and precautions:

The daily dose of drug contains ethanol in an amount of 0.008 g (dose 2.5 ml) to 0.1g (dose 30 ml).

Anemia can be caused by infectious diseases or malignant neoplasms. Since iron can only be taken after the root cause of the disease has been eliminated, the benefit/risk ratio of treatment should be determined.

During treatment with Medifer, dark discoloration of feces can be noted, but this is not clinically significant.

"Medifer" contains sucrose in an amount of 200 mg / ml, which should be taken into account in patients with diabetes. Sucrose can harm your teeth.

Warning for diabetics

Medifer is not expected to have an effect on the daily insulin requirement in patients with diabetes mellitus. 1 chewable tablet contains 0,04 bread units.

Other drugs and drug *"Medifer"*

It is allowed to use iron (III) hydroxide polymaltosate with tetracycline and other phenolic compounds, as well as aluminum hydroxide.

The administration of the drug does not affect the results of the detection of hidden blood (with a selective determination of hemoglobin), therefore, treatment interruption is not necessary. Concomitant use of parenteral and oral iron drugs should be avoided, since the absorption of iron taken orally slows down.

Medifer with food, drinks and alcohol

No interaction of iron (III) hydroxide polymaltosate with food components such as phytic acid, oxalic acid, tannin, sodium alginate, choline and choline salts, vitamin A, vitamin D3, and vitamin E, soybean oil and soybean flour was observed either. These results indicate that iron (III) hydroxide polymaltosate can be administered during or immediately after meals. Medifer can be mixed with fruit and vegetable juices, baby food or soft drinks. Slight coloring of the mixture does not affect the taste of the juice/baby food, nor the effectiveness of the drug.

Administration during pregnancy and breastfeeding

Pregnancy

Until now, there have been no reports of serious adverse reactions after oral administration of Medifer at therapeutic doses for the treatment of anemia during pregnancy. The data obtained from animal studies showed no danger to the fetus or the mother. There is no clinical data on the use of Medifer in the I trimester of pregnancy (the drug is prescribing only in the I and III trimesters).

The studies conducted in pregnant women after the end of the I trimester of pregnancy revealed no adverse effects of drug in mothers and/or newborns. Consequently, adverse effect on the fetus is unlikely following the administration of drug.

Breastfeeding

Woman breast milk contains iron bound to lactoferrin. The amount of iron that passes from iron (III) hydroxide polymaltosate to breast milk is unknown. It is unlikely that the administration of drug in lactating women can lead to adverse effects in the child.

Fertility

As a precaution to women of childbearing age and women during pregnancy and lactation should be administered only after consultation with the doctor. The benefit/risk ratio should be evaluated.

Posology and method of administration

Treatment of iron deficiency anemia in children and adults

Treatment to achieve normal hemoglobin (Hb) takes for 3–5 months. After this, treatment should be continued for several weeks at the dose described for iron deficiency without anemia in order to replenish iron stores.

Treatment of iron deficiency without anemia

Treatment takes approximately 1 to 2 months.

Table 1. Daily doses of children and adults according to age.

Category of patients	**Treatment of iron deficiency anemia**	**Treatment of iron deficiency without anemia**
Children of the first year of life	2.5 - 5 ml (25-50 mg of Iron)	-[1]
Children from 1 to 12 years	5 - 10 ml (50-100 mg of Iron)	2.5 - 5 ml (25-50 mg of Iron)
Children over aged 12 years and adults	10 - 30 ml (100-300 mg of Iron)	20-40 drops (50-100 mg of Iron)

[1] Since a measuring syringe does not allow accurate dosing of a dose of less than 0.5 ml (10 mg of iron), *"Medifer"* syrup should not be used if the recommended single dose is less than 0.5 ml (10 mg of iron). Oral iron drops (eg, *Medifer 50 mg/ml oral drops*) should be used to treat iron deficiency without anemia in children.

Method of administration

For oral administration (per os).

The daily dose can be divided into several doses or taken at a time.

"Medifer" should be administered during or immediately after meals.

The accurately dose of the drug can be measured using a measuring syringe attached to the drug.

Side effects

System/organ/class	Very common (≥1/10)	Common (≥1/100, < 1/10)	Not Common (≥1/1000, < 1/100)	Rarly (> 1/10 000, < 1/1000)
Nervous system disorders	--	--	Headache	--
Gastrointestinal disorders	Feces discolouration[1]	diarrhea, nausea, abdominal pain[2], constipation	Vomiting[3], discoloration of tooth enamel, gastritis	--
Skin and subcutaneous tissue disorders	--	--	itching, rash[5,6], urticaria, erythema	--
Musculoskeletal and connective tissue disorders	--	--	--	muscle spasms[4], myalgia

[1] *Fecal discoloration has been reported with less frequency in the meta-analysis, but is a well-studied reaction that occurs with oral iron treatment in general. In this regard, this adverse reaction was assigned a frequency of occurrence of "very common";*

[2] *Includes: abdominal pain, dyspepsia, epigastric discomfort, bloating;*

[3] *Includes: vomiting, belching;*

[4] *Includes: involuntary muscle contractions, tremors;*

[5] *Includes: rash, rash macular, rash vesicular;*

[6] *Adverse reactions that were noted in the post-marketing period with an estimated incidence of <1/491 patients (upper limit of 95 % confidence interval).*

Shelf life:

3 years.

Storage conditions:

Open containers should be used within 6 months.

Store in original package at temperature below 25 °C.

Packaging:

100 ml amber Glass Bottles with PE/PS dosing syringe and Patient Information Leaflet completed in a Paperboard box.

Regulatory status:

Prescription only.