



Actiferon: Slow Release Iron Therapy for Better Absorption and Bioavailability

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Abstract

For nearly 4 decades, studies on iron preparations have been benchmarked against Ferrous Ascorbate. Properties of Ferrous Ascorbate are thus considered the Gold Standard in Iron therapy. Ferrous Ascorbate is the world's most widely recognized reference Iron. since Iron absorbed from the diet is inadequate to meet requirement of many individuals, so iron supplementation is essential to control iron deficiency anaemia. Actiferon slow release iron tablets are easy to swallow and easy on stomach. Actiferon rich in iron combines complete folic acid and physiologically active. Vitamin B12 and zinc in Actiferon in delayed release form avoiding the inhibition of iron absorption. Present article emphasized the role of Actiferon, slow release iron therapy for better Absorption & Bioavailability.

Keywords: Actiferon, Anaemia, Iron absorption.

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1. Introduction

Actiferon slow release iron tablets are easy to swallow and easy on stomach. Actiferon rich in iron combines complete folic acid and physiologically active. vitamin B12 and zinc in Actiferon in delayed release form avoiding the inhibition of iron absorption.

Ferrous Ascorbate

is a synthetic molecule of ascorbic acid and iron. Ascorbic acid enhances absorption of iron. Ascorbic acid reduces ferric iron to ferrous iron, which remains soluble even at neutral pH. Ferrous form is absorbed thrice as much as ferric form of iron - the discrepancy becomes even more, when treated at higher dosage of ferric salts. Ascorbic acid is an essential nutrient in human diets, and necessary to maintain connective tissue and bone. Its biologically active form, vitamin C, functions as a reducing agent and coenzyme in several metabolic pathways. Ascorbic acid is considered an antioxidant. Iron is an essential trace mineral in human nutrition. It is involved in the entire process of respiration, including oxygen transport and electron transport. The principal goal of respiration is the production of biologic energy.

Folic acid (Vitamin B9),

A member of the B-complex vitamins, is a water-soluble vitamin that is unstable in heat and light. Folic acid is required for DNA synthesis and cell growth and is important for red blood cell formation, energy production as well

as the forming of amino acids. Folic acid is essential for creating haeme, the iron containing substance in hemoglobin, crucial for oxygen transport. It is important for healthy cell division and replication, since it acts as a coenzyme for RNA and DNA synthesis. It is also required for protein metabolism and in treating folic acid anemia. Folic acid also assists in digestion, and the nervous system, and works at improving mental as well as emotional health. This nutrient may be effective in treating depression and anxiety. Folic acid is very important in the development of the nervous system of a developing fetus. Zinc also plays a critical role in the regulation of DNA and RNA synthesis (via interaction with DNA binding proteins), in hormone-receptor interactions and in the 'second-messenger' system of cellular signal transduction.

Methylcobalamin

Methylcobalamin is a type of Vitamin B12. Vitamin B12 comes in several kinds including hydroxy-, cyano-, and adenosyl-, but only the methyl and adenosyl forms are active within the body. Deficiency occurs from a lack of "intrinsic factor" a mucoprotein enzyme in gastrointestinal tract, from tapeworm infestation or excessive bacteria in stomach and intestines. Methylcobalamin donates methyl groups to the myelin sheath that insulates nerve fibres and regenerates damaged neurons. In a B12 deficiency, toxic fatty acids destroy the myelin sheath but high enough doses of B12 can repair it.

Actiferon, Slow release iron tablets

Actiferon slow release iron tablets are easy to swallow and easy on stomach. Actiferon rich in iron combines complete folic acid and physiologically active vitamin B12 and zinc in Actiferon in delayed release form avoiding the inhibition of iron absorption.

Actiferon tablets offers benefits as

- a. Easy to swallow
- b. Easy on stomach.
- c. Higher BioAvailability
- d. Better Absorption
- e. Contains complete folic acid and is physiologically active

Composition:

Each enteric coated tablet contains:

Ferrous Ascorbate

Eq. to Elemental Iron 100 mg

Folic Acid 1.5 mg

Zinc Sulphate

Eq. to Zinc 22.5 mg

Methylcobalamin 250 mcg

2. Pharmacological Action

Actiferon contains a unique enteric coated formulation that contains

Ferrous ascorbate (eq to elemental iron)100mg:

A synthetic molecule of ascorbic acid & iron Ferrous iron is absorbed three times more than ferric iron. But in the alkaline pH of intestine, ferrous iron gets converted to ferric hydroxide. but Ascorbic acid inhibits the conversion of ferrous to ferric iron; this leads to increased absorption of iron

Folic acid in Actiferon (1.5 mg):

Sufficient intake of folic acid in the months before conception and during the first trimester of pregnancy can prevent up to 70% of neural tube defects (NTDs).

Zinc in Actiferon(22.5mg): 3 hour delayed release: corrects the zinc deficiency during pregnancy, without affecting iron absorption.

Vitamin B12 in Actiferon (250mcg): contains physiologically active methylcobalamin for immediate utilization.

Indications:

Ferrous Ascorbate, Folic Acid, Zinc & Methylcobalamin rich Actiferon Tablets are indicated in conditions of Iron and Folic acid deficiency in Pregnancy, Adolescence, Menorrhagia Chronic Renal Failure, Anaemia, and Hypochromic Megaloblastic Anaemia

Contra-indications:

Hemosiderosis, Hemochromatosis, Hemolytic anemia and known hypersensitivity to any of the ingredients of the formulation.

Dosage and Administration:

One tablet per day with a glass of water to be taken during breakfast or lunch. During pregnancy or as recommended by your health care practitioner.

Warnings:

Oral iron preparations may aggravate existing peptic ulcer, regional enteritis and ulcerative colitis. Folic acid is contraindicated in pernicious anaemia and megaloblastic anaemia caused by vitamin B12 deficiency. Accidental

over-dosage of iron containing products may cause fatal poisoning in children less than 6 years of age. Keep the tablets out of reach of children. In case of overdose, contact the physician immediately.

Side Effects:

Constipation, diarrhoea, nausea, vomiting, dark stools and abdominal pain are the known and usually transient adverse effects of iron therapy.

Drug Interactions:

The following drug interactions have been reported:

With Iron

Tetracyclines: Mutual interference with absorption; should not be administered concurrently.

Vitamin E: Haematologic response to iron therapy may be impaired and vitamin E requirements increased; patient observation recommended.

Carbonate antacids: Iron absorption is decreased.

Penicillamine: Absorption is decreased.

With Folic Acid

Cyanocobalamin: Blood levels may be reduced by large doses of folic acid administered continuously. Agents causing folic acid deficiency with long-term use include phenytoin, oral contraceptives, isoniazid and glucocorticosteroids. Antifolate agents including trimethoprim, pyrimethamine and methotrexate interfere with folic acid metabolism and may cause deficiency in patients with low folic acid stores. Zinc is able to decrease the absorption of tetracycline and quinolone antibiotics. Vitamin B12 should be taken at different times of the day from tetracycline. Use of metformin for diabetes, acid-reducing medications for ulcers, and long-term treatment with phenobarbital or phenytoin for seizure disorders may interfere with the body's ability to use vitamin B12.

Known symptoms of Overdosage and particulars of its Treatment:

Signs and Symptoms of iron toxicity may occur within 30 minutes, or they may be delayed several hours. Most frequently, they are gastro-intestinal irritation and necrosis, often with nausea, vomiting and shock; they also include pallor of cyanosis, lassitude, drowsiness, haematemesis, diarrhoea of green and subsequently tarry stools, and cardiovascular collapse. The corrosive injury to the stomach may result in subsequent pyloric stenosis or severe gastric scarring. If death does not occur within 6 hours, there may be a transient period of apparent recovery followed by death in 12 to 48 hours. Folic acid, Zinc & Methylcobalamin are essentially nontoxic in man.

Storage:

Store in a cool, dry place, protected from light. Keep out of reach of children

Presentation: Blister pack of 10 tablets

3. Conclusion

Actiferon rich in iron combines complete folic acid and physiologically active vitamin B12 and zinc in Actiferon in delayed release form avoiding the inhibition of iron absorption. Actiferon slow release iron tablets are easy to swallow and easy on stomach. Actiferon tablets offers benefits as-Easy to swallow, Easy on stomach, Higher BioAvailability, Better Absorption, Contains complete folic acid and is physiologically active. Actiferon Tablets are indicated in conditions of Iron and Folic acid deficiency in Pregnancy, Adolescence, Menorrhagia Chronic Renal Failure, Anaemia, and Hypochromic Megaloblastic Anaemia etc.

4. References

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