BLUSH

Composition

Each **BLUSH Capsule** contains:

Ferrous fumarate	330 mg
Folic acid	1.5 mg
Vitamin B12	10 mcg
Vitamin B6	3 mg
Vitamin C	150 mg
Dioctyl sodium sulfosuccinate	75 mg

Pharmacology

Hematopoiesis, the production from undifferentiated stem cells of circulating erythrocytes, platelets and leukocytes, is a remarkable process that produces over 200 billion new cells per day in normal person and even greater numbers of blood cells in people with conditions that cause loss or destruction of blood cells. The hematopoietic machinery resides primarily in the bone marrow in adults and requires a constant supply of three essential nutrients - iron, vitamin B12 and folic acid.

Iron deficiency is the most common cause of chronic anemia. Like other forms of chronic anemia, iron deficiency anemia leads to pallor, fatigue, dizziness, exertional dyspnea and other generalized symptoms of tissue ischemia. The cardiovascular adaptations to chronic anemia - tachycardia, increased cardiac output, vasodilatation - can worsen the condition of patients with underlying cardiovascular disease. Normally, only small amount of iron is lost from the body each day, so dietary requirement is small and easily fulfilled by the iron available in a wide variety of foods. However, in special populations with either increased iron requirements, e.g., growing children, pregnant women, or increased losses of iron, e.g., menstruating women iron requirements can exceed normal dietary supplies and iron deficiency can develop.

Reduced forms of **folic acid** are required for essential biochemical reactions that provide precursors for the synthesis of amino acids, purines and DNA. Folate deficiency is not uncommon, even though the deficiency is easily corrected by administration of folic acid. The consequences of folate deficiency not only include megaloblastic anemia but also go beyond, and is a cause of congenital malformation in newborns and play a role in vascular disease.

Vitamin B12 serves as a cofactor for several essential biochemical reactions in humans. Deficiency of vitamin B12 leads to anemia, gastrointestinal symptoms and neurological

abnormalities. Humans get most of their vitamin B12 from meat; bacteria in human colon synthesize it but it is not absorbed from this part of the intestine. Dietary deficiency of vitamin B12 is virtually confined to vegetarians.

Vitamin B6 is a coenzyme for transamination and is concerned with many metabolic processes. Pyridoxine-responsive anemia is a well-documented condition. Vitamin B6 in improves hematopoiesis in up to 50% of patients with either hereditary or acquired sideroblastic anemia. Characteristically, these patients show impairment in hemoglobin synthesis and an accumulation of iron in the perinuclear mitochondria of erythroid precursor cells, so-called ringed sideroblasts. Oral therapy with vitamin B6 is of proven benefit in correcting the sideroblastic anemias associated with the antitubercular drugs, which act as formers antagonists. Vitamin B6 is also used for a variety of conditions including premenstrual tension, vomiting in pregnancy and radiation sickness.

Vitamin C is also known as ascorbic acid. Ascorbic acid enhances iron absorption from ferrous fumarate by inhibiting the inhibitory effects of the food factors like phytates, polyphenols and tannic acid, which may block the iron absorption. In addition, it is also a powerful reducing agent (antioxidant) and plays a part in intracellular oxidation-reduction systems, and mops up free radicals produced endogenously or in the environment.

In treating anemias, especially where the treatments are long drawn, compliance is the biggest problem. The main factor leading to poor compliance is constipation with iron formulations. Therefore, with the aim to improve compliance **Dioctyl Sodium Sulfosuccinate [DOSS]**, a stool softener has been incorporated in **BLUSH**.

Indications

BLUSH is indicated in:

- The treatment of anemia.
- The conditions, which predispose to anemia include:
    - Nutritional deficiency,
    - Pregnancy,
    - Lactation,
    - Malabsorption syndrome,
    - Use of non-steroidal anti-inflammatory drugs,
    - Chronic inflammatory disease and gastrectomy.

Contraindications

BLUSH is contraindicated in patients with hemolytic anemias and haemochromatosis.

Precautions

- Occasional gastrointestinal discomfort with the use of iron preparations may be minimized by taking with meals and by slowly increasing to the recommended dosage.
- The use of this formulation is to be discontinued if symptoms of intolerance develop.
- Egg and milk inhibit absorption of iron.

Pregnancy & Lactation

BLUSH may be used during pregnancy and lactation.

Drug Interactions

Iron chelates in the gut with tetracyclines, penicillamine, methyldopa, levodopa, carbidopa, ciprofloxacin, norfloxacin and ofloxacin. It also forms stable complexes with thyroxine, captopril and biphosphonates. These interactions can be clinically important; therefore, doses should be separated by 3 hours.

Desferrioxamine binds iron and reduces absorption.

Vitamin B6 enhances peripheral decarboxylation of levodopa and reduces its effectiveness for the treatment of Parkinson's disease.

Prolonged use of penicillamine can cause deficiency of vitamin B6. Cycloserine and hydralazine are also antagonists of this vitamin.

Adverse Reactions

The gastrointestinal effects of **BLUSH** may include nausea, abdominal pain, and either constipation or diarrhea.

Dosage & Administration

The usual recommended dose of **BLUSH** is one capsule daily.

Presentation

BLUSH is available in a strip of 30 capsules.