

The New Economics of **Iron** in Renal Anemia



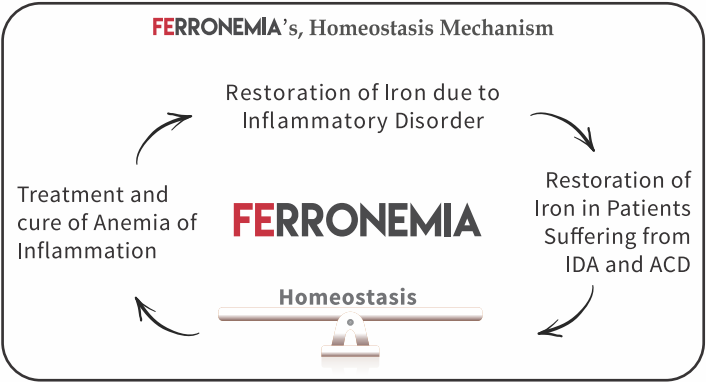
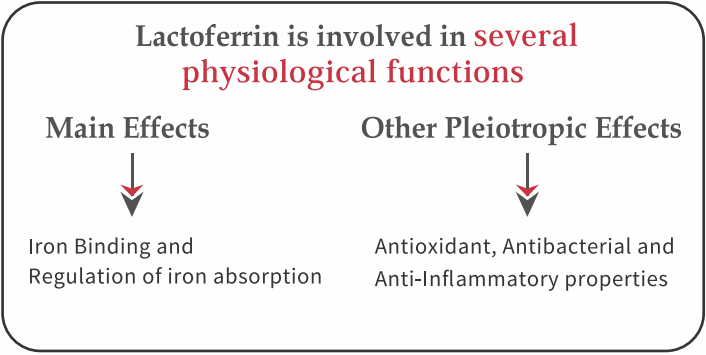
Anemia Of Chronic Disease (ACD)

Anemia is a frequent complication of chronic kidney disease, occurring in over 90% of patients receiving renal replacement therapy. It is associated with significant morbidity and mortality. The prevalence globally ranges from 8.4% at stage 1 to 53.4% at stage 5. However, as per an Independent Indian study done on 333 newly diagnosed CKD patients, anemia was found to be present in 90.39% patients.

FERRONEMIA

The New Economics of Iron in Renal Anemia

- **FERRONEMIA**, is a patent applied product approaching Iron Deficiency Anemia, is a composition of Lactoferrin and Disodium Guanosine-5 mono-phosphate to counter the condition of Iron Deficiency Anemia and Anemia of chronic disease.
- **FERRONEMIA**'s, Lactoferrin, is a multifunctional cationic glycoprotein constitutively synthesized by exocrine glands and by neutrophils following infection and inflammation and is one of the most important regulator of systemic iron homeostasis.
- **FERRONEMIA**'s Lactoferrin contains a non-haem iron-binding protein that is a part of the transferrin protein family, whose function is to transport iron in blood serum.
- **FERRONEMIA**'s Lactoferrin differs from transferrin by its higher affinity for iron is 300 times greater and its ability to retain iron at a pH lower than 4 such as exist in the gastrointestinal tract or inflammatory lesions.



References: 1) Gebre A,et al. Journal of Nutrition and Metabolism Volume 2015, Article ID 165430
2) Euro J Zool Res, 2014, 3 (1):32-36
IDA- Iron Deficiency Anemia | ACD = Anemia of Chronic Disease

Clinical Evidence

Oral lactoferrin versus ferrous sulphate and ferrous fumarate for the treatment of iron deficiency Anemia during pregnancy

A prospective, randomized, parallel-group, multicenter study : Total 300 pregnant women in the second trimester were diagnosed with iron deficiency anemia (IDA)

Group 1
(**Lactoferrin group**): Included 100 pregnant women who received 250 mg lactoferrin capsules once daily for eight consecutive weeks.

Group 2
(**Ferrous Sulphate group**): Included 100 pregnant women who received 150 mg of dried ferrous sulphate capsules once daily for eight consecutive weeks.

Group 3
(**Ferrous Fumarate group**): Included 100 pregnant women who received 350 mg of ferrous fumarate capsules once daily for eight consecutive weeks.

The primary efficacy parameter was the amount of increase in hemoglobin concentration by 4 and 8 weeks, the adverse effects related to iron therapy and the patient compliance to the treatment.

Changes in hemoglobin (Hb) concentration after treatment-

	Group 1	Group 2	Group 3
Hb at enrollment (g/dL)	8.03±0.70	8.15±0.58	8.03±0.70
Hb after 1 month (g/dL)	8.65±0.71	9.33±0.37	8.65±0.71
Hb after 2 months (g/dL)	10.41±0.33	9.41±0.35	9.14±0.6
Total increase in Hb (g/dL)	2.28±0.56	1.16±0.42	1.21±0.22

Adverse effects of treatment

	Group 1	Group 2	Group 3
Gastric upset	10	63	60
Abdominal pain	20	65	60
Constipation	17	55	60
Dark stools	0	35	30
Vomiting	7	40	30

According to the results obtained in this clinical trial, oral lactoferrin was better tolerated and more acceptable with higher increase in mean hemoglobin when compared to oral iron therapy over two months treatment.

Oral lactoferrin was as effective as oral iron supplementation with significant less side effects and hence should be used as a good substitute to oral iron therapy in mild to moderate IDA.

FERRONEMIA

Lactoferrin 100 mg & Disodium Guanosine 5-Monophosphate 10 mg Tablets

Description

FERRONEMIA consists of Lactoferrin and Disodium Guanosine 5-Monophosphate. Lactoferrin is a non-haem iron-binding protein that is a part of the transferrin protein family and differs from transferrin by its higher affinity for iron which is 300 times greater and its ability to retain iron at a pH lower than 4 such as exist in the gastrointestinal tract or inflammatory lesions.

Indication

FERRONEMIA is indicated for the management of Iron Deficiency Anaemia and Anaemia of Chronic Disease.

Mechanism of Action

FERRONEMIA works by the following mechanisms –

- Decreases Hepcidin levels by regulating the Ferroportin Hepcidin Axis
- Increases iron efflux in the systemic circulation by Macrophage M1 to M2 phenotype conversion
- Reduces ferritin bind iron stores
- Reduces inflammatory pathways further affecting Hepcidin
- Improves Ferroportin stabilization via GMP

Dosage & Administration

2 Tablets a day or as suggested by Health care Professional.

Advantages of **FERRONEMIA**-

- Effective increase of Haemoglobin and systemic Iron levels
- No adverse events due to iron overload
- Low or No Side effects such as nausea, constipation etc. arise due to Iron Supplementation
- Countering any adverse effect of inflammation arising due to Erythropoietin resistance
- Restoration of Iron Homeostasis
- A valuable alternative for sensitive populations such as the elderly, children and pregnant women



FRIMLINE

Frimline Pvt. Ltd.

(A subsidiary of La Renon Healthcare Pvt. Ltd.)

511- ISCON Elegance | Circle P | Prahlad Nagar Cross Roads | S.G. Highway | Ahmedabad- 380 015 | Gujarat | India.

Phone: +91-79-6616-8999 | E-mail: info@frimline.com | Web: www.frimline.com