

## **Is correction of iron deficiency a new addition to the treatment of heart failure?**

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### **Abstract**

Anemia (Hb <13g% in men and <12g% in women) is present in about 40% of Heart Failure (HF) patients. Iron deficiency (ID), if defined as either a serum ferritin of <100ug/l or a serum ferritin of 100-300ug/l along with % Transferrin Saturation of <20%, is present in about 60% of the patients with anemia (about 24% of all HF patients) and in about 40% of patients without anemia (about 24% of all HF patients). Thus ID is present in about half the patients with HF. The ID in HF is associated with reduced iron stores in the bone marrow and the heart. ID is an independent risk factor for severity and worsening of the HF. Correction of ID with intravenous (IV) iron usually corrects both the anemia and the ID. Currently used IV iron preparations are very safe and effective in treating the ID in HF whereas little information is available on the effectiveness of oral iron. In metanalysis IV iron correction of ID in HF is associated with improvement in NYHA functional status, exercise capacity, C Reactive Protein, quality of life, rate of hospitalization for HF, cardiac dilation and hypertrophy, cardiac function and renal function. Correction of the ID is also highly cost effective. The improvement seems to be related more to the correction of the iron deficiency than to correction of the anemia. The large placebo- controlled studies have only been done with Ferric sucrose and Ferric carboxymaltose. The incidence of adverse effects of these agents is similar to placebo. However large long-term adequately-controlled mortality-driven intervention studies are still needed to clarify the effect of IV iron in HF. Several Heart Associations, including the European, Australian and New Zealand Heart Associations, suggest that ID should now be routinely sought for in all HF patients and corrected if present.

### **Biography**

Donald Silverberg graduated from Medical School University of Manitoba in 1962. He obtained his Residency in Internal Medicine and Nephrology at the Mayo Clinic Rochester Minnesota in 1962-1966 and Residency in Nephrology, University of Lund, Sweden in 1966-1967. He worked as Nephrologist at University Hospital-Edmonton, Canada during 1968-1976. He has been living in Israel and practicing nephrology since 1976 in Tel Hashomer and Beilinson and Tel Aviv Medical Center. He is the National Director of Hypertension Control Division, Kupat Holim Sick Fund 1978-1986 and is organizing the detection and treatment of hypertension for the Israeli population.