

Lactoferrin or ferrous salts for iron deficiency anemia in pregnancy: A meta-analysis of randomized trials.

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Author information

Abstract

This systematic review and meta-analysis aimed to evaluate the efficacy of daily oral bovine lactoferrin versus daily oral ferrous iron preparations for treatment of iron deficiency anemia (IDA) during pregnancy. Searches were conducted on PubMed, ScienceDirect, ClinicalTrials.gov and CENTRAL databases from inception to February 2017 and the bibliographies of retrieved articles were screened. The PRISMA Statement was followed. Published English language randomized trials comparing lactoferrin with oral ferrous iron preparations in pregnant women with iron deficiency anemia were included. Quasi-randomized, non-randomized or studies including other known cause of anemia, gestational or pre-existent maternal diseases were excluded. Accordingly, 4 eligible trials (600 women) were analyzed. Primary outcome was change in hemoglobin level at 4 weeks of treatment. Secondary outcomes were; change in serum ferritin and iron, rates of gastrointestinal side effects, preterm birth, low birthweight, neonatal death and mean birthweight. Quality assessment was performed by the Cochrane risk of bias tool. Odds ratio and mean difference were used to integrate dichotomous and continuous outcomes respectively. Pooled estimates for change in hemoglobin levels at four weeks favored daily oral lactoferrin over daily oral ferrous sulphate (mean difference 0.77; 95% confidence interval [CI] 0.04-1.55; P=0.04, 4 trials, 600 women). However, after subgroup analysis (degree of anemia), no significant difference in hemoglobin levels were found between both groups in mild anemia (mean difference 0.80; 95% CI -0.21 to 1.82, 3 trials, 372 women), but a significant increase favoring lactoferrin was reported in moderate anemia (mean difference 0.68; 95% CI 0.53-0.83; P<0.00001, one trial, 228 women). Significantly less gastrointestinal side effects were reported with lactoferrin treatment. No significant differences existed with regard to other outcomes. In conclusion, for pregnant women with IDA, daily oral bovine lactoferrin is just as good as ferrous sulfate in improving hematological parameters with fewer gastrointestinal side effects. Thereby, lactoferrin should be the iron replacement agent of choice for treatment of IDA in pregnancy.