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Comparison of the efficacy of iron amino acid chelate and ferrous sulfate in the treatment of iron deficiency anemia among pregnant women seen at the out-patient department of a tertiary medical center

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Statement of the Problem: Pregnant women with iron deficiency anemia (IDA) need effective management to prevent adverse pregnancy outcomes. Ferrous salts are the preparation of choice, recommended for prevention and treatment of IDA. Oral iron supplementation is challenged by gastrointestinal poor gastrointestinal and disturbances. Improving formulation was done by many companies using chelated minerals. Mineral absorption from supplements has been a contested issue in the supplement industry. Validating these claims has often been difficult due to insufficient or conflicting research. This study aims to address the controversy and establish the state of scientific knowledge about mineral absorption from supplements. This will compare the efficacy of iron amino acid chelate and ferrous sulfate in the treatment of IDA during pregnancy.

Methodology: Included were women 18 to 40 years old, singleton pregnancies diagnosed with IDA without any co-existing fetal and maternal complications. Participants were randomly allocated to Iron Amino Acid Chelate and Ferrous Sulfate taken twice a day for 90 days. Baseline, days 30, 60 and 90 post-treatment complete blood count and serum ferritin levels were taken. Mean blood parameters were compared before and after treatment using T-test and Chi-square to compare adverse effects between two groups.

Results: No statistically significant differences in the mean blood parameters between iron amino acid chelate and ferrous sulfate on days 30 and 60 post-treatment. While significantly higher hematocrit and MCHC and lower RDW in chelate group on day 90 post-treatment. All CBC parameters on days 30, 60, and 90 post-treatment compared to baseline were significantly increased for both treatment arms. However, day 90 level of serum ferritin significantly increased in the chelate group.

Conclusion: Iron amino acid chelate and ferrous sulfate is comparable in improving CBC parameters and serum ferritin. Iron amino acid chelate offers improved bioavailability and absorption due to its unique formulation. It is superior to ferrous sulfate as it achieves optimum treatment response, even at a lower dose with lesser adverse effects. Improved tolerability leads to better compliance resulting to successful treatment outcome.

Biography

Ma Agnes Ablay Santiago completed her Degree of Medicine in Far Eastern University - Nicanor Reyes Medical Foundation on year 2011 and obtained her Physician Licensure Examination last 2012. She had her Obstetrics and Gynecology specialization in the same institution from 2014 to 2017. She was the Chief Resident during her final year of training where part of her administrative work is to teach Medical students for the subject Physiologic and Pathologic Obstetrics and Gynecology. This study was conducted during her residency training. She aims to lessen the burden of anemia as one of the leading cause of morbidity in their institution hence this study was pursued.

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