Abstract

Background

Chronic kidney disease (CKD) constitutes one of the most important global health challenges and iron deficiency (ID) anemia is a frequent complication, especially in patients on dialysis.

Objectives

This study aimed to assess differences in iron profile in dialysis-adherent and non-adherent chronic kidney disease subjects and analyze the profiles between both groups.

Methods

One hundred and twenty patients undergoing hemodialysis were included in this cross-sectional study, classified into two subcategories of dialysis adherence. The parameters of iron profile— also defined as serum ferritin, transferrin saturation (TSAT), hemoglobin, and serum iron—were studied. Multivariate regression analysis was carried out, adjusting for possible confounders such as age, sex, diabetes, and duration of dialysis.

Results

Serum ferritin was significantly higher among adherent patients (235.6 ± 120.2 ng/mL vs. 185.2 ± 105.3 ng/mL; $p = 0.03$), as were TSAT ($33.4\% \pm 9.3\%$ vs. $28.8\% \pm 10.2\%$; $p = 0.02$) and hemoglobin (11.5 ± 1.8 g/dL vs. 10.2 ± 2.1 g/dL; $p = 0.04$). Non-adherence to the therapy was associated with a significantly higher number of patients having iron deficiency anemia (63% in non-adherent vs. 40% in adherent patients; $p = 0.01$). Multivariate analysis confirmed that dialysis adherence was independently associated with better iron status ($p < 0.05$ for all parameters).

Conclusion

In hemodialysis patients, adherence to dialysis presents as a strong predictor of a better iron profile. Strategies that improve adherence to dialysis treatment by optimizing iron metabolism among chronic kidney disease patients should be in place.