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Infection-related Hospital Admission in Dialysis Patients: Relationship with Iron Status

Ruba Salameh¹, Bayan F. Alqtishat¹, Hussein Hallak²

¹ Medical Research Club, Faculty of Medicine, Al-Quds University, Jerusalem, Palestine

² Faculty of Medicine, Al-Quds University, Jerusalem, Palestine

First Presenter Email Address: rubasalameh97@gmail.com

Supervisor Email Address: husseinhallak@hotmail.com

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Background: Infection is a major risk factor for mortality in patients on chronic dialysis. The risk of infection in dialysis patients is attributable to many factors including the dialysis process itself, the cause of the end-stage renal disease (ESRD) that lead the patient to be on chronic dialysis, and all the other abnormal changes in the metabolic processes with their consequent changes in different minerals in serum. Iron, phosphorus, calcium, and albumin status have been linked to increased mortality in dialysis patients.

Rationale: Most of the work in the literature has mainly focused on the all-cause mortality association of iron status in dialysis patients; neglecting the effect of different minerals that have also been associated with increased risk of infection, infection-related mortality, or all-cause mortality. This study aimed to assess the interplay between those factors on sepsis and pulmonary infection-related hospitalization.

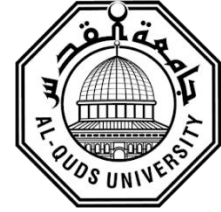
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Correspondence concerning this article should be addressed to the mentioned authors at the mentioned institutes.

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E-mail: research@admin.alquds.edu

Palestine, Abu Dis, Al-Quds University



Methods: This is a retrospective analytical cross-sectional study; Data were collected from 2016 until the end of 2019. Collected data included Ferritin as a marker of iron, phosphorus, calcium, and albumin, hospitalization information, and sociodemographic data.

Results: They showed the use of oral iron is associated with hospitalization for causes other than sepsis - mostly cardiovascular-. While albumin levels were associated with sepsis-related hospitalization. There was a positive correlation between ferritin and albumin levels.

Conclusion: Caution should be taken when prescribing oral iron for patients on regular hemodialysis and we advise clinical trials and meta-analyses looking into oral iron rather than IV iron use and its association with hospitalization and mortality in hemodialysis patients. While minerals in our study did not correlate with hospitalization, more work should be dedicated to assess this aspect.

Keywords: Ferritin, Sepsis, Hospitalization, Minerals, infection