Factors Affecting the Response to Erythropoietin in Hemodialysis Patients
العوامل المؤثرة على الاستجابة للريثروبويتين عند المرضى اللذين يخضعون لغسيل الكلى
By
Ali Abdulhasan Kamil
Supervisor
Dr. Hekmat Al-Akash
August 2020

ABSTRACT

Background: Chronic kidney disease is associated with high risk of mortality and morbidity due to a multiplicity of factors. Erythropoietin stimulating agents are mainly used to correct anemia in patients with chronic kidney disease undergoing Hemodialysis.
Objectives: This study aimed to investigate the association of several factors (Kt/v, serum phosphorus, CRP, serum albumin, ESAs dose per week, ESAs type, iron level, number of HD session/ week, vitamin B12 level) with the erythropoietin response in patients with Hemodialysis.
Methods: A retrospective design was used to collect data from medical records of patients undergoing HD. Sampling was done using convenience sampling technique. A total of 130 files were reviewed from two sectors in Jordan. Data were collected from electronic patients' files.
Results: The result showed that erythropoietin stimulation agents' response as represented by hemoglobin level was negatively predicted from both, the Erythropoietin dose (B= -0.439, p<0.001) and the iron level (B= - 0.029, p<0.05). While serum phosphorus (B= 0.002, p=0.958), C-reactive protein (B=-0.001, p=0.574), serum albumin (B=-0.027, p=0.405) and vitamin B12 level (B= -3.07E-05, p=764) didn't significantly predict the response to erythropoietin stimulation agents.
Conclusion: Frequently giving high doses of ESAs therapy may have a reverse effect on response to ESA therapy. Laboratory results should be should be frequently monitored. Additionally, iron level alone should not be relied on as an indicator for erythropoietin stimulation agents' responsiveness.
Keywords: Chronic Kidney Disease, Hemoglobin level, Hemodialysis patients, Erythropoietin Stimulating Agents, Jordan.