Abstract

Background: Hemodialysis represents the main mode for treatment of chronic kidney disease stage 5 (CKD5). Anemia is one of disorders may develop as a consequence of the loss of renal function.

Aim of the Work: To Study the relationship between fibroblast growth factor-23 and Anemia in diabetic patients on regular hemodialysis.

Methodology: This was an analytical case control study on 90 patients who have end stage kidney disease on regular hemodialysis during 2015, In Al-Agouza Hospital; Patients were divided into 2 groups: Group 1: 45 patient diabetic, ESKD on regular hemodialysis, and level of hemoglobin less than 11 gm\dl. Group 2: 45 patient not diabetic, ESKD on regular hemodialysis, and level of hemoglobin less than 11gm\dl.

Results: This is an analytical case control study on 90 patients which have end stage kidney disease on regular hemodialysis, during 2015&2016, Al-Agouza Hospital.

Conclusion: our findings suggest that serum FGF-23 level in hemodialysis patients is significantly correlated with serum hemoglobin level. Serum FGF-23 is significantly higher in diabetic patients than non-diabetics. PTH levels is significantly higher in the hemodialysis patients especially non diabetics.

Recommendations: Fibroblast Growth factor-23 is related to anemia in hemodialysis patients, so more studies or studies conducted on large number of patients may help to find recent modalities to decrease FGF-23 thus help improving anemia in hemodialysis patients. Correction of serum FGF-23 level may help in correction of serum calcium and PTH. FGF-23 may be used in the follow up of diabetic nephropathy.

Keywords: Relationship between Anemia, Fibroblast Growth Factor 23, Diabetic patients, Regular Hemodialysis

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List of Abbreviations

Abbrev.	Meaning
BMD	: Bone mineral density
CERA	: Erythropoietin receptor activator
CKD	: Chronic kidney disease
CKD5	: Chronic kidney disease stage 5
ELISA	: Enzyme linked immunosorbent assay
ESAs	: Erythropoiesis-stimulating agents
ESKD	: End-stage kidney disease
ESRD	: End-stage kidney disease
FGF23	: Fibroblast growth factor 23
FGFRs	: Fibroblast growth factor receptors
GFR	: Glomerular filtration rate
HIF	: Hypoxia inducible factor
HRP	: Horseradish Peroxidase
IL-1	: Interleukins -1
KDOQI	: Kidney Diseae Outcomes Quality Initiative

PEG-EPO : Pegylated epoetin

PRCA : Pure red cell aplasia

PTH : Parathyroid hormone

RBC : Red blood cell

TIBC : Total iron-binding capacity

TNF : Tumor necrosis factor

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Aim of the Work

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