

SIGNIFICANCE OF HIGH SERUM FERRITIN LEVEL IN DIABETES WITH CHRONIC KIDNEY DISEASE

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ABSTRACT : To evaluate the serum Ferritin level in Type 2 Diabetes mellitus and to decide the connection between's S. ferritin and HbA1C with interminable kidney ailment. 50 out quiet Diabetic cases with interminable kidney infection from Sree Balaji Medical College and Hospital. 50 out tolerant Non Diabetic cases with no renal malady from Sree Balaji Medical College and Hospital. The connection between Ferritin in Diabetes with interminable kidney ailment is dubious. Several studies have been done far and wide. The present examination was attempted to comprehend the illness better. Serum ferritin, FBS, PPBS, HbA1C&Hb were estimated. The outcomes acquired were exposed to factual examination. The outcomes show that there was increment in S. Ferritin in Diabetics with renal illness than in charge. There was critical connection between's S.Ferritin and HbA1C.

Key words : Type 2 DM, Serum Ferritin, HbA1C-Chronic kidney disease.

INTRODUCTION

One of the significant hazard factors for advancement of chronic kidney disease (CKD) is diabetes. In patients with constant kidney sickness serum ferritin is a less strong marker of bioavailable iron. Hyperferritinemia is a deceptive marker of iron stores in such patients. The steady fiery state is regular in diabetes and CKD. Irritation was the reasonable justification of expanded ferritin level in around 33% of CKD patients. Weakness is basic among those with diabetes and CKD and incredibly adds to quiet results (Vlagopoulos *et al*, 2005; Toto, 2005).

Diabetes is the main source of CKD and is related with extreme cardiovascular horribleness and mortality (Johnson *et al*, 2004; Beddhu *et al*, 2005). Iron deficiency is regular among those with diabetes and CKD and enormously adds to persistent results (Vlagopoulos *et al*, 2005; Toto, 2005). Utilitarian iron inadequacy paleness is sufficient tissue iron characterized as a serum ferritin level ≥ 100 ng/ml and a decrease in iron immersion. It is progressively normal and is emphatically connected with upregulation of incendiary cytokines and debilitated tissue responsiveness to erythropoietin, which can hinder iron vehicle from tissue stores to erythroblasts (Canturk *et al*, 2003).

MATERIALS AND METHODS

Study population : A total of 100 out patients from Sree Balaji Medical College & Hospital, Chennai were included in this prospective, observational study. The patients were divided into two groups for comparison: Group 1-Diabetic with known chronic kidney disease patients and Group 2 –non Diabetic with no renal disease. An informed consent, to participate in the study, were obtained from the patients, and the study protocol was approved by the local hospital ethical committee.

Biochemical measurements : Hb, Ferritin, Fasting blood sugar and HbA1C. Blood sugar is measured by GOD/POD Enzymatic photometric method. Estimation of HbA1C by Ion exchange chromatography. Ferritin by chemiluminescent immunoassay method. Hb by three part analyser machine

Normal ranges

Blood sugar-Serum/plasma Fasting 70- 110mg/dl

Serum Ferritin- Men 18-270 (ng/mL)

Women 18-160 ng/mL

Hemoglobin A1c levels- Non-diabetics 4% - 5.9%

Diabetics 6.5% Diabetics at higher risk 7.5%

Hemoglobin-Male:13.8 to 17.2 grams per deciliter (g/dL)

Female: 12.1 to 15.1 g/dL