

Comparison of the Selected Biochemical Parameters of Type 2 Diabetic Mellitus Patients Attending the Diabetic Centre, Teaching Hospital Jaffna with Iron Deficiency Anaemia and Non-Iron Deficiency Anaemia

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Background: Prevalence of unrecognized iron deficiency anaemia (IDA) and non-iron deficiency anaemia (NIDA) are common among type 2 DM patients, leading to several complications. **Objective:** Objective of this study was to compare selected biochemical parameters of IDA and NIDA of type 2 diabetic patients, attending the Diabetic Centre, Teaching Hospital, Jaffna. **Methods:** This was a descriptive cross-sectional study. A systematic random sampling method was used to recruit 300 patients. Serum albumin and haemoglobin levels were measured. Among the 300 patients, anaemic patients were selected and their serum ferritin and Total Iron Binding Capacity (TIBC) were measured to identify IDA patients. Statistical analysis was carried out by independent sample t-test and Mann-Whitney U test considering $p < 0.05$ as statistically significant. Data were presented as mean \pm SD and median (IQR). **Results:** IDA (n=32) and NIDA (n=37) patients had mean haemoglobin levels of 9.74 (± 1.54) and 9.31 (± 1.69) g/dl, respectively. Mean serum albumin levels of IDA and NIDA patients were 3.67 (± 0.64) and 3.72 (± 0.70) g/dl respectively and not differed significantly. Median of FPG (Fasting Plasma Glucose) of IDA [6.02 (5.00-6.62) mmol/l] and NIDA [6.36 (5.43-9.51) mmol/l] patients was statistically significant ($p = 0.019$). Median of serum ferritin of IDA [7.35 (4.65-8.3) ng/ml] and NIDA [28.9 (17.05-43.7) ng/ml] patients were statistically significant ($p < 0.001$). The median of TIBC of IDA patients was [564.59 (267.94 – 961.72) μ g/dl] higher than that of the NIDA patients [252.34 (169.85-320.57) μ g/dl] and differed significantly ($p < 0.001$). **Conclusion:** Between these IDA and NIDA patients, a significant difference was observed for fasting plasma glucose, serum ferritin and TIBC. It is important to include biochemical investigations in the routine screening of diabetic patients which can facilitate the identification of IDA and NIDA early in the course of disease.

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Keywords: Diabetes Mellitus, Iron deficiency anaemia, Non-Iron deficiency anaemia, Biochemical parameters.