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Estimation of serum testosterone level and its co-relationship with hematocrit in type 2 diabetes male patients

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Introduction: Diabetes mellitus is heterogenous group of metabolic disorders. Hypogonadism is a clinical condition comprising both clinical and biochemical parameters of testosterone deficiency. Elder age and obesity both are linked with type 2 diabetes and both diminutions testosterone levels. Anemia is frequently found in patients with diabetes, in whom it is associated with increased morbidity and mortality. Low testosterone levels are also common in men with type 2 diabetes.

Aims & Objectives: The aim of this study was to estimate the serum testosterone level and its co-relation with hematocrit in Type 2 diabetes male patients and the objectives are to estimate the serum testosterone in type 2 diabetes mellitus and to estimate anemia and hematocrit in type 2 diabetes mellitus.

Materials & Methods: A Prospective Case Control study, patients presenting to departments of internal medicine both inpatients and outpatients at KLES Dr Prabhakar Kore Charitable Hospital & MRC, Belgaum fulfilling the inclusion criteria. Seventy-five diabetic cases and 75 age and BMI matched non-diabetic controls were taken for study.

Results: In our study, we found 72% of diabetic cases had low testosterone, mean hematocrit value was 41.81%, in both cases and controls. Normocytic normochromic anemia was common finding. There was significant correlation between testosterone and hematocrit values, with $p=0.00042$. There was also significant correlation between duration of diabetes, BMI, regularity of treatment for diabetes with serum testosterone levels.

Conclusion: These findings suggest that testosterone deficiency may contribute to the increased frequency of anemia in men with type 2 diabetes. And low testosterone can be a predictor of insulin resistance and metabolic syndrome; further studies are needed for confirmation of low testosterone with coronary artery disease.

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