

## **The therapeutic effect of testosterone on lipid profile in patients with chronic kidney disease and low serum testosterone level**

### ***Abstract***

**Background:** Hypogonadism occurs in most patients with renal failure. Blood testosterone levels in men undergoing hemodialysis have been shown to be hypogonadism, which does not improve with the beginning of hemodialysis.

**Aim:** This study was performed to determine the effect of injectable testosterone on lipid profile in patients with chronic kidney disease.

**Materials and Methods:** According to this study, male patients with renal insufficiency with GFR <45 referred to the nephrology clinic of Imam Khomeini Hospital in Ardabil were included. Patients' information (age, BMI) were recorded in adjusted questionnaires. Blood samples were taken from all subjects after 7-10 hours of fasting between 7 and 9 am to measure serum levels of total cholesterol, HDL, LDL, triglyceride, and testosterone levels. Patients were then treated with testosterone for three months by intramuscular injection of testosterone enanthate 100mg every 2 weeks. After three months, blood sampling was repeated to measure serum levels of total cholesterol, HDL, LDL, triglycerides and the results were recorded in each questionnaire and analyzed. Total testosterone level less than 3.5ng/ml was considered as deficiency. Information about sodium, potassium, calcium, phosphorus, hemoglobin levels and erythropoietin intake was extracted from patients' records.

**Results:** There were no significant difference in serum levels of cholesterol, triglyceride, LDL, HDL, phosphorus, sodium and erythropoietin consumption after administration of testosterone in patients with chronic kidney disease stage 5, but increases serum calcium (P=0.004) and hemoglobin levels (P=0.042) and decreases serum potassium levels (P=0.016).

**Conclusion:** testosterone administration in patients with chronic kidney disease has no effect on serum levels of cholesterol, triglycerides, LDL, HDL.

**Keywords:** CKD, Lipid profile, Testosterone