

# **ABSTRACT**

## **STUDY ON SERUM MAGNESIUM LEVELS IN DIABETIC PATIENTS WITH MICROVASCULAR COMPLICATIONS**

Type 2 Diabetes mellitus is a metabolic and endocrine disease characterized by hyperglycemia associated with both insulin resistance and defective insulin secretion. Hypomagnesemia has been reported to occur at an increased frequency among patients with type 2 DM compared with their counterparts without diabetes. Excessive urinary magnesium loss associated with glycosuria is probably the most important factor in the genesis of hypomagnesemia in diabetic. Previous studies have shown that Diabetes mellitus's association with disturbed magnesium metabolism. In this study serum magnesium levels of diabetic patients are estimated and correlated with duration, microvascular complications and variables like age, sex, smoking etc.

This study was carried out in Department of General Medicine at Government Stanley Medical College and Hospital, Chennai during the period between March 2016 and August 2016. This study was ethically approved by the Ethical Committee of Government Stanley Medical College, Chennai. This study is a case control study, enrolling 100 diabetic patients; 50

Cases with diabetic microvascular complications and 50 selected from those who visited hypertension clinic and those who were admitted in wards during the study period.

This study concluded the association of hypomagnesemia and diabetes. This study also concluded that there was a significant negative correlation noted between serum magnesium levels and duration of diabetes. This study also found out strong association between hypomagnesemia and diabetic neuropathy. There was no significant correlation between hypomagnesemia and other microvascular complications.