

## Abstract

### **AN ANALYTICAL STUDY CORRELATING THE SIGNIFICANCE OF SERUM LIPIDS IN THE DEVELOPMENT OF CLINICALLY SIGNIFICANT MACULAR EDEMA IN PATIENTS WITH DIABETIC RETINOPATHY**

**Aim:** To correlate the levels of serum lipid and presence of clinically significant macular oedema in diabetic retinopathy patients.

**Objectives:** To compare the serum lipid profile of patients with and without clinically significant macular oedema and to emphasize the importance of doing serum lipid profile as a routine investigation in patients with diabetic retinopathy and to initiate treatment for those appropriate.

**Materials and methods:** 200 patients with diabetic retinopathy were selected for the study and divided equally into 2 groups containing 100 patients each.

#### **Results:**

Total cholesterol levels in patients of Group A ranged from 140– 518 mg/dl with a mean of 318.69 mg / dl and Group B from 112– 412 mg / dl with a mean of 199.57 mg / dl. Total cholesterol level was found to be statistically significant with a 'p' value of 0.0000. Patients without CSME had a mean triglyceride levels of 164.89 mg/dl whereas patients with CSME had a higher triglyceride levels with a mean of 257.07 mg / dl with the 'p' value of 0.0000. Patients with CSME had mean HDL-C levels of 35.49 mg/dl and those who did not have CSME had a mean of 49.13 mg / dl. Patients with CSME had higher serum LDL-C levels with a mean of 195.48 mg / dl compared to patients without CSME who had 107.73 mg% (p=0.0000). Blood urea and serum Creatinine had no significance in the development of CSME (p=0.1197 and 0.2470, respectively) Patients in both the groups had a mean SBP and DBP higher than normal values and showed statistical significance (P=0.0003 and P=0.0058 respectively)

**Observations:** Increased total cholesterol, triglyceride, LDL cholesterol and decreased levels of HDL cholesterol were found to be significant in the

development of CSME. Those with increased duration of diabetes had severe stages of DR and had CSME. Duration of insulin usage was also found to be a significant causative factor in the development of CSME. There was no correlation seen with blood urea, serum creatinine. Both systolic and diastolic BP were observed to be significant.

**Conclusion:** Serum lipid profile and blood pressure must be part of the routine investigation in diabetic retinopathy patients in order to prevent vision threatening complications like clinically significant macular oedema.

**Keywords:** Diabetic retinopathy, diabetic maculopathy, CSME, serum lipids, blood pressure, blood urea, serum creatinine.