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Study of biochemical parameters in diabetic subjects with and without diabetic retinopathy

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Introduction: Diabetic Retinopathy (DR) is a common, potentially blinding and visual disabling complication of diabetes mellitus (DM). The potential risk factors for diabetic retinopathy are longer duration of diabetes, hypertension, and poor glycemic control.

Materials & Methods: A hospital based case control study including 100 type-II DM >35 years of age was included. They were divided into two groups: Group-I with DR and Group-II without DR. Biochemical parameters like HbA1c, fasting and postprandial blood sugar, serum lipid profile, serum creatinine and urine albumin along with other risk factors were evaluated.

Results: The mean age was 59.56±10.9 and 54.30±9.7, duration of DM, 8.20±4.6 and 4.08±2.7, BMI: 25.91±2.8 and 25.07±2.5, HbA1c: 8.62±1.5 and 5.54±1.2, total cholesterol: 228.9±63 and 184.9±39.8, serum triglyceride: 226.6±80.7 and 160.8±45.1, HDL-C: 40.6±8 and 40.12±9.5, LDL-C: 152.3±49 and 127.2±37 and creatinine was 1.15±0.45 and 0.66±0.27 for diabetic retinopathy and no diabetic retinopathy patients, respectively. Significant association was seen between DR and age (p=0.014), duration of DM (p: 0.001), BMI (p: 0.05), Fasting blood sugar (p: 0.001), Postprandial blood sugar (p: 0.001), HbA1c (p: 0.001), total cholesterol (p=0.001) and creatinine (p=0.001). However there was no of association with HDL. The mean values of serum lipoproteins when taken together were higher in the Group-I than in the Group-II.

Conclusion: There was significant association of elevated HbA1c, triglyceride, LDL and total cholesterol with diabetic retinopathy in patients with type-II DM.

Biography

Poonam Lavaju is currently working as an Additional Professor in the Department of Ophthalmology at BP Koirala Institute of Health Sciences, Dharan, Nepal. She is involved in academics program for undergraduate and post graduate students in ophthalmology. She is In-Charge of the Department. She has published articles in index journals both in national and international journals. She is one of the Board Members in Nepal Eye Bank Committee.

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