

Risk factors Association with Diabetic Retinopathy and Maculopathy in Egyptian type 2 Diabetics

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Abstract

The aim of this work is to evaluate association of retinopathy and maculopathy with nutritional and biochemical factors. 149 type 2 diabetic patients were classified into three groups according to their body mass index; group 1 (BMI \leq 25; n=33), group 2 (BMI \leq 29.9; n=64) and group 3 (BMI \geq 30; n =52). The signs and grading of diabetic retinopathy (DR) and maculopathy were ascertained from retinal digital photographs. Different parameters were analyzed including: age, gender, diabetes duration and body mass index (BMI). Calculation of daily consumption pattern and nutrient intake were estimated including total calories and its sources, proteins, carbohydrate, fats and fibers. Biochemical analysis included blood glucose level and lipids profile. 72 patients (48.3%) exhibited mild diabetic retinopathy, 8 cases (5.4%) with moderate NPDR, 6 cases (4%) with severe NPDR and 14 cases (9.4%) with proliferative DR (PDR). Cases with mild retinopathy were

significantly more in group 2 and group 3 ($P=0.0001$). Cases with severe PDR were more in group

3. There was significant higher incidence of maculopathy among patients of group 2 and group 3 (42

cases, 65.6%), 40 cases (76.9%) respectively) ($P=0.0001$). In group 3, there was a significant increase

in low density lipoproteins and cholesterol. In groups 2 and 3 the intake of energy exceeded the mean

of ideal physiological requirement, while the intake of protein and fat was satisfactory. Patients with

higher intake of saturated fat and plant origin protein showed higher incidence of retinopathy and

maculopathy. A positive correlation between obesity, increased saturated fat intake, glycemic control

and severity of retinopathy was found. These results support the role of obesity, quality of glycemic

control and saturated fat as factors involved in diabetic retinopathy among Egyptian diabetic patients.

Key words: diabetic retinopathy-diabetic maculopathy-obesity-body mass index-lipids, proteins.

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