ASSESSMENT OF GLYCAEMIC CONTROL IN A SAMPLE OF DIABETIC PATIENTS WITH CATARACT AND RETINOPATHY

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ABSTRACT

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The prevalence rate of diabetes mellitus in Sri Lanka is on the increase (Wijesuriya, 1997). One of the organs affected by diabetes is the eye, giving rise to conditions such as diabetic retinopathy and diabetic cataract. However, stringent glycaemic control can prevent or delay the onset of these complications.

This study was aimed at assessing the glycaemic status of a sample of diabetic patients with cataract and another sample of diabetics with retinopathy. This was done by measuring their fasting or random plasma glucose concentrations (FPG or RPG) and total glycated haemoglobin concentrations (HbA_1).

The majority of the patients in the study sample maintained poor glycaemic control. When FPG or RPG was taken as the criterion for glycaemic control only 24% of diabetic cataract patients (n = 45) maintained good glycaemic control, whereas 76% maintained poor glycaemic control. When HbA_1 was considered as a measure of glycaemic status, only 13.3% had good or satisfactory glycaemic control. 44.4% had weak glycaemic control. 42.3% maintained poor glycaemic control. In the diabetic cataract patients the mean FPG was 10.12 ± 3.50 mmol/l. The mean RPG for this group was 8.59 ± 3.70 mmol/l. This value is less than the FPG. The mean HbA_1 value was 8.58 ± 1.85 %. Taking FPG or RPG was taken as the measure of glycaemic control, only 6% of the diabetic retinopathy patients (n = 50) had good or satisfactory glycaemic control. 94% had poor glycaemic control, When HbA_1 was considered only 6% had good or satisfactory glycaemic control where as 24% had weak glycaemic control. 70% had poor glycaemic control. The mean FPG value of diabetic patients with retinopathy was 11.24 ± 3.85 mmo/l. The mean RPG for this group was 16.43 ± 5.06 mmol/l. The mean HbA_1

value was 9.62 ± 1.72 %. There was a significant difference in the mean HbA_1 values of the diabetic cataract and retinopathy patients, ($p < 0.05$).

The results also showed that there was a significant correlation between fasting plasma glucose and HbA_1 ($r = 0.739$, $p < 0.01$) and also random plasma glucose and HbA_1 ($r = 0.810$, $p < 0.01$). There was also a significant correlation between duration of diabetes and HbA_1 ($r = 0.286$, $p < 0.01$). A significant correlation was also seen between fasting plasma glucose and duration of diabetes ($r = 0.289$, $p < 0.01$).

There is a large percentage of diabetic cataract and diabetic retinopathy patients whose glycaemic control is unsatisfactory. It would be more beneficial to the patients if near normoglycaemia can be maintained. Ophthalmlogists should monitor the glycaemic status of their patients. They should take necessary measures to ensure that the patients maintain proper glycaemic control.