ABSTRACT

CORRELATION BETWEEN SERUM MAGNESIUM WITH DEGREE OF SEVERITY OF DIABETIC RETINOPATHY IN UNCONTROLLED TYPE 2 DIABETES MELLITUS

(Cross Sectional Analytical Observational Study in Ophthalmology and Diabetes-Endocrinology Outpatient Clinic in Dr. Soetomo Hospital Surabaya)

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Objective: To determine serum magnesium concentrations in varying severity of diabetic retinopathy and also correlation between serum magnesium concentrations and the severity levels of diabetic retinopathy in uncontrolled type 2 diabetes mellitus.

Methods: An analytic cross sectional observational study had been done at Dr. Soetomo hospital. The subject was 24 patients with uncontrolled type 2 diabetes mellitus that match the inclusions criteria. Data retrieval base on history of anamnesis includes general data for age ans sex, duration of type 2 diabetes mellitus, physical examinations including: blood pressure, posterior segment examination with slit lamp and 90 Dioptri lens. Seven fields fundal photo examination was performed on each patient’s eye. The severity levels of diabetic retinopathy was determined based on the ETDRS classification and divided into three groups. Laboratory examinations including HbA1C for determination of blood glucose control and followed by serum magnesium examination.

Results: The result of statistical analysis showed that there was no difference in the distribution of research subjects in each of the severity of diabetic retinopathy based on sex, duration of diabetes mellitus type 2, incidence of hypertension, dyslipidemia, and kidney abnormalities and there is a significant association between serum magnesium levels in the group without diabetic retinopathy and groups with NPDR.

Keyword: diabetic retinopathy, magnesium, type 2 diabetic mellitus