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EVALUATION OF OPTIC DISC CAPILLARY COUNT IN CORRELATION WITH DIABETIC RETINOPATHY GRADES

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PURPOSE:

Diabetic retinopathy (DR) is a common microvascular complication of Diabetes Mellitus (DM). The Kestenbaum capillary number index is the capillary count observed on the optic disc, historically used to study optic atrophy. We postulate that this method may be useful in studying microvascular changes in eyes with DR. This study aims to evaluate the possible correlation of optic disc capillary count with DR grades.

METHODS:

Open sourced data from the Rotterdam Ophthalmic Data Repository, which included fundus images of 70 diabetic patients were obtained. We evaluated these fundus images based on grade of DR and Kestenbaum capillary number index. Subsequent analysis on correlation between DR grade and Kestenbaum capillary number index was carried out.

RESULTS:

A total of 140 images of 70 subjects were graded (33 males, 37 females). The mean age for 63.1±11.5 years. On the first visit, there were 110 without DR, and 30 with mild to moderate DR. Analysing by age (62years vs ≤ 62years), the older age group had lower capillary count compared to those younger (4.66±0.23 vs 5.48±0.26, p0.05). Analysing by gender, females also had a lower capillary count compared to males (4.39±0.22 vs 5.74±0.23, p0.05). Analysing by DR status did not show any significant difference in capillary count.

CONCLUSIONS:

In this study, we report that optic disc capillary count in diabetic patients are correlated with age and gender but not with the severity of DR. Further studies may be required to apply capillary count in more severe cases of DR.

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