Association between renal function and disc hemorrhage

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Purpose: To investigate the relationship between renal function and disc hemorrhage (DH) in South Korean population.

Methods: This retrospective cross-sectional study included subjects who underwent screening at Kangbuk Samsung Hospital Health Screening Center between August 2012 and July 2013. Subjects underwent physical examination and provided samples for laboratory analysis for renal function. The estimated glomerular filtration rate (eGFR) was calculated using the modification of diet in renal disease equation (MDRD) and CockcroftGault (CG) formula. Digital fundus images were collected with a digital fundus camera and intraocular pressure (IOP) was measured using a non-contact tonometer.

Results: Fundus photographs were available for 164,029/168,044 (97.61%) subjects 20 years and older. Among them, 220 (0.1%) subjects showed DH and 2376 (1.6%) subjects showed glaucomatous retinal nerve fiber layer (RNFL) defects. The DH group was older and had higher male preponderance, higher IOP, higher systemic blood pressure, higher fasting blood glucose, higher serum creatinine, higher total cholesterol, and lower eGFR than the non-DH group. A significant trend was observed between decreased eGFR as obtained by the MDRD and CG formulas and the prevalence of DH (p for trend≤0.003, logistic regression analysis). A multiple logistic regression model adjusted for age, sex, hypertension, diabetes and hyperlipidemia showed the lowest eGFR quartile estimated by both MDRD and CG were significantly associated with DH when compared to the highest eGFR quartile (adjusted odds ratio (aOR), 1.96; 95% CI, 1.22-3.14 by CG, 1.86; 95% CI, 1.17-2.96 by MDRD).

Conclusion: Renal function was independently associated with DH in a South Korean population.

Biography
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