

Association between Platelet Function and Disc Hemorrhage in Patients with Normal Tension Glaucoma: A prospective cross-sectional study

Shim SH (1) , Kim JM (2) , Woo HY (3) , Shin KU (1) , Koh JW (4) , Park KH (5)

1 Department of Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, South Korea.

2 Department of Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, South Korea. Electronic address: joonmo1.kim@samsung.com.

3 Department of Laboratory Medicine, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, South Korea.

4 Department of Ophthalmology, Chosun University School of Medicine, Gwangju, South Korea.

5 Department of Ophthalmology, Seoul National University College of Medicine, Seoul, South Korea.

PURPOSE: To evaluate the association between platelet function and disc hemorrhage in patients with normal tension glaucoma.

DESIGN: Prospective, cross-sectional study.

METHODS: A total of 315 subjects, including patients with normal tension glaucoma and disc hemorrhage (n=120) , patients with normal tension glaucoma without disc hemorrhage (n=75) and healthy individuals (control group, n=120) . A detailed eye examination including visual field testing, color disc photography, optical coherence tomography scanning, and measurement of collagen/epinephrine closure time using a platelet function analyzer-100 system were performed for all subjects.

RESULTS: The collagen/epinephrine closure time (sec) as measured by the platelet function analyzer-100 system was approximately 14-24% longer in the normal tension glaucoma and disc hemorrhage group compared with the other groups (141.92 ± 53.44 (with normal tension glaucoma and disc hemorrhage) versus 124.60 ± 46.72 (with normal tension glaucoma without disc hemorrhage) versus 114.84 ± 34.84 (healthy individuals) , one-way ANOVA test, p < 0.05).
CONCLUSIONS: Our results suggest that platelet function is significantly associated with disc hemorrhage in patients with normal tension glaucoma. Delayed absorption resulted from prolonged bleeding due to delayed platelet aggregation may have an effect on the detectability of disc hemorrhage in patients with normal tension glaucoma.

Am J Ophthalmol. 2015 Sep 14. pii: S0002-9394(15) 00558-9. doi: 10.1016/j.ajo.2015.09.006.

PMID: 26384167

<http://www.ncbi.nlm.nih.gov/pubmed/26384167>