

Investigation of the Association between *Helicobacter pylori* Infection and Normal Tension Glaucoma

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PURPOSE: To investigate whether *Helicobacter pylori* infection is associated with normal tension glaucoma (NTG). **Methods.** One hundred consecutive NTG patients (group 1) from an outpatient glaucoma clinic were enrolled. Medical records of the 88 control participants (control 1) of the outpatient clinic, and 104 NTG patients (group 2) and 1116 healthy controls (control 2) (1220 subjects in total) from a primary health care center were reviewed retrospectively to compare the **RESULTS:** Serum samples from all subjects were analyzed for the presence of *H. pylori*-specific immunoglobulin G antibodies using ELISA. The distributions of serologic *H. pylori* test results of the NTG patients and control subjects were compared, and possible associations between clinical phenotypes and positive serologic results were assessed. Bilaterality of NTG patients was also analyzed.

RESULTS: NTG patients had significantly more positive serologic results than did the healthy controls. There were significant differences between group 1 and control 1 patients ($P = 0.020$; odds ratio (OR), 2.05), group 1 and control 2 patients ($P = 0.016$; OR, 1.73), and group 2 and control 2 patients ($P = 0.008$; OR, 1.83). However, no significant association was found between clinical characteristics and a positive serologic result for *H. pylori* in NTG patients.

CONCLUSIONS: This study suggests that *H. pylori* infection may be associated with an increased risk for NTG. *H. pylori* may play a role in the development or progression of NTG as a secondary aggravating factor because of the coexistence of other main causes or it may be the primary cause.

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