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## Primary Open-Angle Glaucoma

**TO THE EDITOR:** With regard to the review article on primary open-angle glaucoma by Kwon et al. (March 12 issue),<sup>1</sup> we believe that some discussion of the possible role of vascular factors in the pathophysiology of glaucomatous optic neuropathy is necessary.

Investigators in the Barbados Eye Studies reported that baseline vascular risk factors, including decreased systolic blood pressure and decreased systolic, diastolic, and mean ocular perfusion pressure, can influence the risk of open-angle glaucoma. Specifically, low ocular perfusion pressure doubled the risk of glaucoma in that population.<sup>2</sup> Investigators in the Early Manifest Glaucoma Trial reported that baseline predictors of progression of open-angle glaucoma include decreased ocular systolic perfusion pressure, a history of cardiovascular disease, and decreased systolic blood pressure.<sup>3</sup> Another study showed that a diastolic blood pressure of less than 90 mm Hg due to antihypertensive treatment is associated with increased optic-nerve cupping and a decreased rim area of the optic disk in subjects without glaucoma.<sup>4</sup>

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**TO THE EDITOR:** Regarding the review article by Kwon et al.: it appears that *Helicobacter pylori* infection is associated with various risk factors for primary open-angle glaucoma.<sup>1,2</sup> Moreover, an association between *H. pylori* infection and primary open-angle glaucoma has been found in a Greek cohort, and levels of *H. pylori* infection-specific IgG antibodies are increased in the aqueous humor in patients with primary open-angle glaucoma; the concentration of this antibody correlates with the degree of vertical cupping, possibly indicating the severity of glaucomatous damage.<sup>3</sup> Similar observations<sup>4,5</sup> have been made in China, India, Turkey, and Iran.

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**THE AUTHORS REPLY:** We agree with Grzybowski and Harris that systemic and local vascular factors play an important role in the pathogenesis of primary open-angle glaucoma, as shown by several large epidemiologic studies, both cross-

sectional and longitudinal. In a study involving clinic populations, an author of our review article and others reported that patients with normal-tension glaucoma and patients with anterior ischemic optic neuropathy who showed progressive visual-field deterioration were more likely to have nocturnal, systemic hypotension than patients with stable visual fields.<sup>1</sup> Because of space constraints, we confined the discussion in our review article to the mechanisms of elevated intraocular pressure and resultant changes to the cells and structures of the optic-nerve head (or optic disk).

In reply to the comments by Kountouras et al.: the association between *H. pylori* infection and glaucoma remains controversial. Since the initial reports of the association observed in a Greek cohort involving 41 study subjects and 30 control subjects, a larger independent study in Canada (involving 97 study subjects and 94 control subjects)<sup>2</sup> and another study in Israel (involving 51 study subjects and 36 control subjects)<sup>3</sup> showed that *H. pylori* seropositivity in the study cohort was not significantly greater than that of controls. A study from South India involving 50 study subjects and 50 control subjects showed that the level of anti-*H. pylori* IgG antibodies in the serum, but not in the aqueous humor, was significantly elevated in patients with primary open-angle glaucoma as compared with that of controls.<sup>4</sup> The negative finding in the aqueous humor is in

contrast to the significantly elevated level of IgG detected in the aqueous humor in patients with primary open-angle glaucoma in an earlier study from Greece involving 26 study subjects and 31 control subjects.<sup>5</sup> We acknowledge that the hypothesis concerning the contribution of *H. pylori* infection to the pathogenesis of glaucoma through a cellular or humoral immune response remains an intriguing possibility. However, to date, independent studies involving larger cohorts have not corroborated the conclusions of the initial reports.

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## Preservation of Fertility in Patients with Cancer

**TO THE EDITOR:** With regard to the review article by Jeruss and Woodruff (Feb. 26 issue)<sup>1</sup>: we appreciate the increased attention to options for the preservation of fertility in people with cancer; however, it is important to inform readers of the evidence-based guidelines on this topic that were published in 2006 by a committee convened by the American Society of Clinical Oncology (ASCO).<sup>2</sup> The ASCO guidelines were based on a systematic review of the literature and formal procedures for guideline creation, including composition of the committee, critique by outside experts, and review by ASCO administrative bodies. Per ASCO policy, these guidelines will also be updated periodically with the use of the same rigorous procedures. Many of the specific recommendations in the review by Jeruss and Woodruff

are quite controversial, and their approach should be recognized as one among many in an evolving field.

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**TO THE EDITOR:** In their review, Jeruss and Woodruff state that “children undergoing chemother-