Neuroepidemiology 2013;40:225–226
DOI: [10.1159/000343960](https://doi.org/10.1159/000343960)

Nonarteritic Ischemic Optic Neuropathy and Other Vascular Diseases

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Nonarteritic ischemic optic neuropathy (NAION) is the most common optic neuropathy in adults older than 50 years of age and the reported annual incidence in this age group is 2.3–10.2 cases per 100,000 [1]. Known risk factors have been described for this condition, including hypertension, diabetes mellitus, ischemic heart disease, hypercholesterolemia and tobacco use [2, 3]. Other associated conditions include hematologic abnormalities such as hyperhomocysteinemia and possibly the use of performance-enhancing medications [4, 5]. Further studies to investigate for the presence of a hypercoagulable state should be considered in patients who do not have the typical risk factors or the typical clinical course, such as young patients or simultaneously bilateral events.

Recurrence of NAION in the same eye is uncommon [6]. However, the risk of second eye involvement within 5 years from the first event is approximately 15% in the general population and 20% in diabetics [7]. Optic nerve decompression surgery has been investigated with disappointing results [8]. As currently there is no effective treatment for this condition and the visual loss is usually permanent, many patients are anxious that the same event will occur in their other eye and to the possibility of other non-ocular ischemic events. This has led to the common practice of prescribing aspirin; however, it is unclear whether this therapy reduces the risk of fellow eye events. In the study of Kupersmith et al. [9], the use of aspirin taken two or more times per week decreased the incidence of second eye involvement (17.5 vs. 53.5%). However, another study found no significant difference at 5 years [10]. In patients who develop NAION while taking low-dose aspirin, the common practice is to increase the dosage of the drug, but there is no data to prove the benefit of this approach.

Previous reports on the risk of cardiac and cerebral vascular events following NAION have attained contradictory results. In a paper published in this issue, Hasanreisoglu et al. [11] found that the risk of cardiovascular and cerebrovascular events following NAION is similar to that in the general population. This conclusion seems almost intuitive, as one can speculate why an ischemic event that occurred in the eye should influence the occurrence of other vascular events besides reflecting the presence and severity of the risk factors. Salomon et al. [12] reported similar findings of no increased risk for cardiac and cerebral vascular events following NAION. On the other hand, other authors have reported dif-

ferent results [13, 14]. For example, Hayreh et al. [14] reported that the risk of cerebrovascular events for patients with hypertension and diabetes who developed NAION was greater than in the general population. However, this study did not specify whether the ocular ischemic event was an independent risk factor.

In their study, Hasanreisoglu et al. [11] divided their patients into diabetics and nondiabetics and compared their risk for cardiac and vascular events to historical control data from the Farmington, UK Prospective Diabetes Study (UKPDS) and the National Vascular Disease Prevention Alliance (NPDPA) data. As expected, in diabetics, the risk for cardiac and vascular events was higher than in nondiabetics. However, the presence of NAION was not an independent risk factor and as such did not influence the occurrence of these systemic complications. There is, nevertheless, a significant difference in the type of blood vessels involved in these conditions. NAION is a disease of smaller blood vessels, the branches of the short posterior ciliary arteries, whereas myocardial infarction and ischemic stroke result from the obstruction of intermediate-sized arteries. It would have been interesting to note, on magnetic resonance imaging, the rate of occurrence of lacunar infarcts of the brain of these patients which result from involvement of arteries of comparable size.

The results found by Hasanreisoglu et al. [11] in their study are somewhat reassuring to the patient with NAION. As it is impossible to improve vision in the affected eye or to prevent the occurrence of the same event in the other eye, it is important to emphasize to the patients the positive aspects as much as possible: firstly, the risk that the second eye will be similarly affected within the next several years is significantly less than the risk that it will not become affected. Furthermore, there is no evidence for an increased risk of cardiac and cerebral ischemia following the ocular event.

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