Clinical Experiences on Ischemic Optic Neuropathy

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Ischemic optic neuropathy in the Philippines is a condition often times misdiagnosed, or even undiagnosed. While we have a very limited number of confirmed arteritic type, the non-arteritic form easily gets confused with glaucoma or a neurologic condition.

Case 1 is a middle-aged female patient with uncontrolled hypertension and diabetes who consulted a local ophthalmologist for sudden non-painful blurring of vision in her left eye of several days duration. The ophthalmologist did her refraction but was unable to improve the vision in that eye. Vision in the other eye was "normal". Intraocular pressures (IOP) were measured and came out in the low twenties. She was then put on antiglaucoma medications but vision never went back to normal. No other diagnostic work-ups were requested. She stayed with the doctor for several weeks, and when nothing else could be done to improve her vision, she decided to seek another consult.

Case 2 is a 67-year-old male patient who is diabetic and hypertensive but admittedly did not want to take his medications since he thought dieting and exercise together with herbal medications would control, or even better, cure him of his problems. One day, he complained of sudden blurring of vision in his right eye. There were no other associated signs and symptoms except that he complained of tripping whenever he climbed the stairs. The ophthalmologist who saw him said he had a stroke, and sent him directly to a neurologist, who in turn later returned him to the referring doctor for lack of neurological findings. Magnetic resonance imaging (MRI) turned out to be negative for any neurologic lesions.

In both cases, there was little to almost no specific work-up that could determine if the patient was suffering from ischemic optic neuropathy. Often times ancillary laboratory procedures tend to be sort of a "shotgun" work-up or simply put, a "fishing expedition". A simple swinging flashlight test could have easily shown an afferent pupillary defect pointing to an optic nerve pathology, and a visual field examination could have shown an inferior altitudinal field defect in both cases. One can say that since these patients were examined in the province, they did not have these ophthalmic equipment available. However, the penlight and even confrontation visual field examinations could have easily clinched the diagnosis and proper treatment implemented right away. Advise these patients that control of blood sugar and hypertension is also a must.

Glaucoma also confuses the ophthalmologists when in fact their patients have non-arteritic ischemic optic neuropathy (NAION). The question most ophthalmologists ask is how to confidently clinically differentiate a glaucomatous optic nerve from an ischemic neuropathy since both nerves in these cases are pale. One cannot stress the fact that a good history in elderly patients with sudden unexplained loss of vision in one or both eyes must include ischemic optic neuropathy in their differential diagnoses, especially if with comorbid factors like uncontrolled hypertension

and diabetes are present. A generalized pallor of the nerve for ischemic neuropathy versus a pale optic nerve cup with pinkish borders around the physiologic cup in glaucoma should be seen and recognized by the examiner.

Case 3 is a diagnosed normal tension glaucoma patient, and being treated as such. Again, based on perimetric reading of an inferior altitudinal defect that originated from the normal blind spot in the right eye, the patient was placed on antiglaucoma medications. Reviewing history though and asking specific questions, he complained of suddenly losing vision in the right eye without any associated signs and symptoms. He did have relative afferent pupillary defect and generalized pallor of the optic nerve with a 0.4 cup-disc (CD) ratio in the involved eye. The other eye had slight pallor of the optic nerve with a CD ratio of 0.4. Visual acuity of the right was 20/100, left was 20/40 with correction. He also has immature cataracts in both eyes. With the generalized pallor, and a normal IOP plus a history of sudden loss of vision, most likely the diagnosis is NAION rather than glaucoma.

There are many cases similar to these three patients where general ophthalmologists have problems figuring out what the cause of visual loss is. More often than not, pupillary light examination is not done, visual fields are forgotten, and fluorescein angiography and optical coherence tomography are almost always requested. Most doctors' clinics are outside the hospital and it becomes rather bothersome to refer to an eye center for work-up. And if indeed full work-ups are requested, patients might not agree to it for fear of spending too much money, especially if they are not enrolled in any health insurance company.

Case 4 is a 68-year-old diabetic female patient referred to the retina specialist for poor vision in her right eye of 2 weeks duration. She was referred for reevaluation due to lack of abnormal retina findings. Since the patient's eyes were dilated, pupils could not be adequately evaluated. She was advised to come back another day within the week for a full neuro-ophthalmologic evaluation. She came back several days later complaining that the left eye had suddenly become blurry to 20/400, same as the right. High dose oral prednisone was given while waiting for blood laboratories and other eye exams to be done. She came back several days later with better vision in both eyes. Her poorer eye went from 20/400 to 20/100 while the left became 20/70. She improved within the week to almost 20/50 for the right eye and 20/25 for the left with correction. Blood examinations showed significant increase of her fasting blood sugar, partly due to steroid therapy. She had beginning generalized pallor of the right optic nerve and her IOPs were normal. Posterior ischemic optic neuropathy (PION) for this patient was considered since there were no other findings pointing to NAION.

Case 5 is a 76-year-old diabetic and hypertensive female patient referred for severe right-sided headache associated with sudden loss of vision of the right eye with complete ptosis. She also complained of inability to brush the right side of her head specifically the temporal area due to excruciating pain even on light touch. Temporal arteritis was the first impression versus cavernous sinus thrombosis (neurologist's impression). Visual acuity in the right eye was light perception. She was treated accordingly including a temporal artery biopsy which was positive. To date, she is one of the several documented temporal arteritis patients in the country. This is considered a rare occurrence in this part of the world, or maybe some missed diagnoses out there?

While everyone knows there is such a thing as ischemic optic neuropathy, the ophthalmic community seems to not consider the NAION diagnosis as much as glaucoma. They seem to forget that the most basic equipment like the penlight, and a simple confrontation visual field could already give the clue to the diagnosis. Also, some of the patients were subjected to everything plus MRI and referral to neurologists, but not visual field test, which is easily done at regular eye centers. While NAION is most probably very common in the Philippines, PION would be harder to diagnose. Giant cell arteritis or temporal arteritis is easily recognizable due to its very prominent textbook features, however it is uncommon in the Philippines, no one knows why.

In several neuro-ophthalmology conferences for general ophthalmologists in different countries where audience participation was included, it was quite noticeable that the part of NAION is almost always missed. It seems that the focus of the eye specialists are always on glaucoma, cataract, and retina, and the nerve left to the neuro-ophthalmologists to deal with. If we are to be considered physician specialists of the eye, then it should be the whole eye, especially when it comes to visual loss. Then and only then can we be true to our choice profession.