Case report: We report the case of a 62-year-old man with classic nonarteritic anterior ischemic optic neuropathy (NAION) in the left eye and incipient NAION in the right eye. Incipient NAION progressed to classic NAION after 3 weeks. There was no ocular, orbital, neurologic, or systemic disorder that was responsible for optic disc edema.

Discussion: Recently, Hayreh has described the new entity, incipient NAION. Diagnostic criteria include asymptomatic optic disc edema and no visual loss in the contralateral eye of patients affected by NAION. Incipient NAION represents the earliest asymptomatic clinical stage in the evolution of the NAION disease process. There is no treatment for this entity. Steps should be taken to treat risk factors for NAION to reduce the risk of progression of incipient to classic NAION. (Arch Soc Esp Oftalmol 2009; 84: 151-154).

Key words: Anterior ischemic optic neuropathy, incipient anterior ischemic optic neuropathy, optic disc swelling, NAION, optic nerve.

Case clínico: Se presenta un paciente de 62 años con neuropatía óptica isquémica anterior no arterítica (NOIANA) clásica en ojo izquierdo, y forma incipiente en ojo derecho con progresión a forma clásica a las 3 semanas. Se excluyeron otras causas de tipo ocular, orbitario, neurológico o hematológico que pudieran relacionarse con el edema papilar.

Discusión: Hayreh ha descrito recientemente la entidad NOIANA incipiente. Los criterios diagnósticos básicos son la presencia de un edema de disco sin pérdida de visión asociada en el ojo adelfo de pacientes con NOIANA. Representa el estadio clínico asintomático más precoz en la evolución de la NOIANA. No hay tratamiento para esta entidad, y para reducir el riesgo de progresión de forma incipiente a clásica se aconseja tratar los factores de riesgo de la forma clásica.

Palabras clave: Neuropatía óptica isquémica, edema de papila, NOIA, neuropatía óptica isquémica incipiente, nervio óptico.
Eye fundus examination revealed a superior sectoral edema in RE and diffuse papillary edema with peripapillary flame-shaped hemorrhages in LE (fig. 1a).

Visual field examination was normal in RE (fig. 2), revealing a severe diffuse defect in the LE.

Blood pressure, globular sedimentation rate and blood tests were normal, except for the increase in serum fibrinogen, which prompted treatment with acetylsalicylic acid. The hematologic and neurologic studies were completely normal.

At 3 weeks, the patient returned to the ER reporting sudden loss of vision in RE and VA reduction to 0.3. Eye fundus examination revealed a more pronounced and diffuse RE edema and the presence of peripapillary flame-shaped hemorrhages (Fig. 1b). During the perimetry, an arch defect was observed in the inferior hemifield (fig. 2).

2 months since the onset of condition, the papillary edema had resolved in both eyes (BE) (Fig. 1c), VA standing at 0.6 in RE and 0.2 in LE. The optical coherence tomography revealed a significant thinning of the nerve fibers layer in 270° of BE.

**DISCUSSION**

Patients suffering from nonarteritic anterior ischemic optic neuropathy (NAION) typically present painless, sudden loss of vision, with papillary edema, afferent pupillary defect and ipsilateral visual field alterations (1,2).

In 1981, Hayreh described for the first time a stage in asymptomatic disc edema preceding the classic clinical NAION condition (3).

More recently, in 2007, Hayreh and Zimmerman reviewed 60 eyes of 54 patients assessed over a period of 27 years and diagnosed with incipient NAION. Diagnostic criteria for this entity are:

1. Sectoral or diffuse disc edema predominating in one sector over the rest.
2. Absence of subjective and objective associated loss of vision.
3. Absence of other associated ocular, hematologic, orbital or neurological causes (4).

The present patient showed during the acute stage of a classic left-sided NAION a superior sectoral disc edema in the right eye with no loss of vision, normal perimetry and no other causes that could justify such findings (fig. 1), thus fulfilling the 3 diagnostic criteria above.

Hayreh and Zimmerman did not find differences in vision upon completion of follow-up in those cases which progressed and those who did not, with VA equal to or better than 20/25 in approximately 60% of cases. In the present case, final VA in the right eye was 0.6, better than that of BE in the classic form (VA: 0.2).

Since the main clinical trait of incipient NAION is asymptomatic disc edema, it is necessary to
exclude several diagnostic entities. Thus, conditions associated with monocular edema should be considered, such as posterior uveitis, central retinal vein occlusion, ocular hypotony, posterior uveitis, optic neuritis, vasculitis, Liber’s optic neuropathy, orbital extensive lesion and infiltration of the optic nerve; other conditions entailing bilateral edema should also be considered, such as the increase in intracranial pressure and malignant arterial hypertension. However, most of the cases described entail a loss of vision and/or other associated clinical signs which facilitate diagnosis.

In the series published by Hayreh (4), 55% of cases presented a classic NAION associated to the other eye, either simultaneously or isolated in time. 25% of cases progressed to the classic form in 6

Fig. 1b: 3 weeks after Figure 1a. Left.: RE Fundus: Diffuse edema and new superficial hemorrhages in the inferior sector. Right.: LE Fundus: The edema is more pronounced, with the presence of more hemorrhages and cotton-wool exudates.

Fig. 1c: Edema resolution in both eyes at 2 months since LE acute episode.
weeks-time on average, while 20% did so in different time intervals after the resolution of the incipient NAION episode. Those progressing were significantly younger than the rest.

The present patient suffered a classic NAION episode simultaneously in BE with progression from the incipient to the classic form in 3 weeks time; these data are also in agreement with the findings published by Hayreh.

Regarding the disease treatment, even though a first pilot study seemed to indicate that steroids may accelerate recovery (2), subsequent check-ups could not confirm this outcome. In the said study, Hayreh and Zimmerman (4) compared patients suffering from incipient NAION who chose to be treated with oral steroids (80 mg on the first day in a decreasing pattern after 2 weeks) with untreated patients, finding no significant differences. The only treatment prescribed for the present patient was Adiro® due to the concomitant hyperfibrinogenemia.

Prophylactic measures aimed at preventing progression to the classic form include suppression of those medications susceptible of causing nocturnal hypotension episodes as well as reducing ocular tension whenever elevated or close to limit values (5).

Hayreh holds that all patients suffering from NAION present with asymptomatic disc edema, but only on rare occasions does the ophthalmologist have the chance to assess them at that stage. The presence of a classic NAION in the other eye, progression to or development of the classic form during follow-up supports the diagnosis of this clinical entity.

REFERENCES