

Incipient non-arteritic anterior ischemic optic neuropathy (NAION)

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A 61 year old white man is referred to neuro-ophthalmology for right optic disc edema. He is asymptomatic

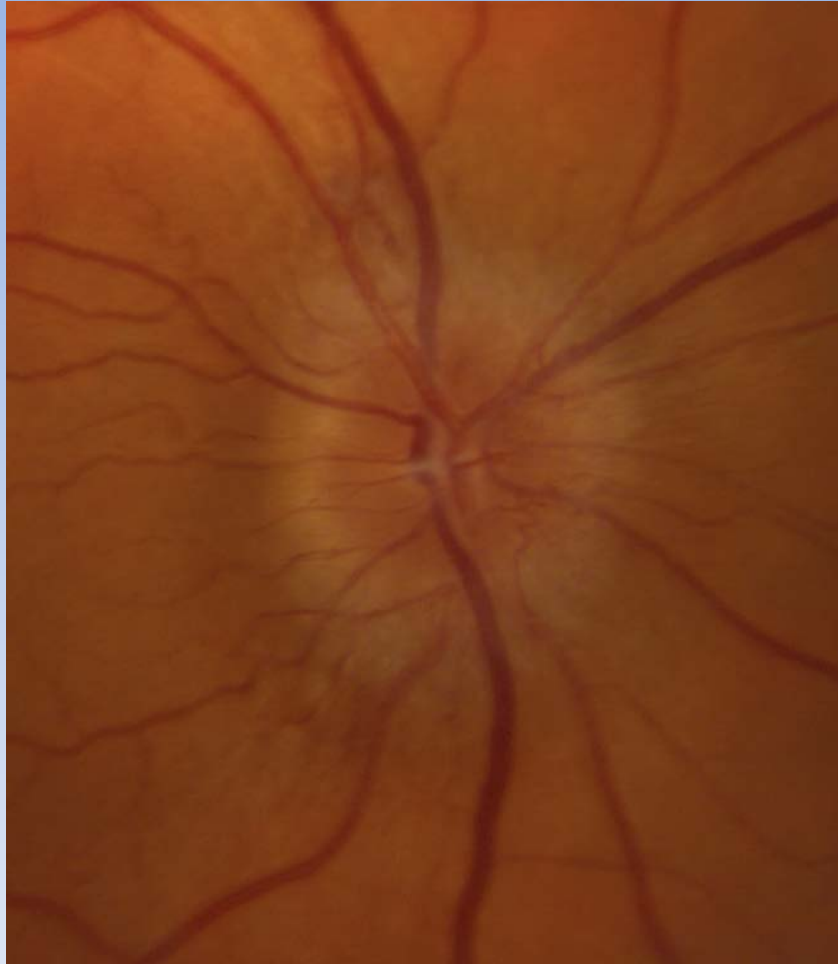
He has a past medical history of hypertension, type 2 diabetes and dyslipidemia,

Visual acuity is 20/20 OD, 20/20 OS

There is no relative afferent pupillary defect

Color vision is 14/14 OD, 14/14 OS correct Ishihara plates

Figure 1

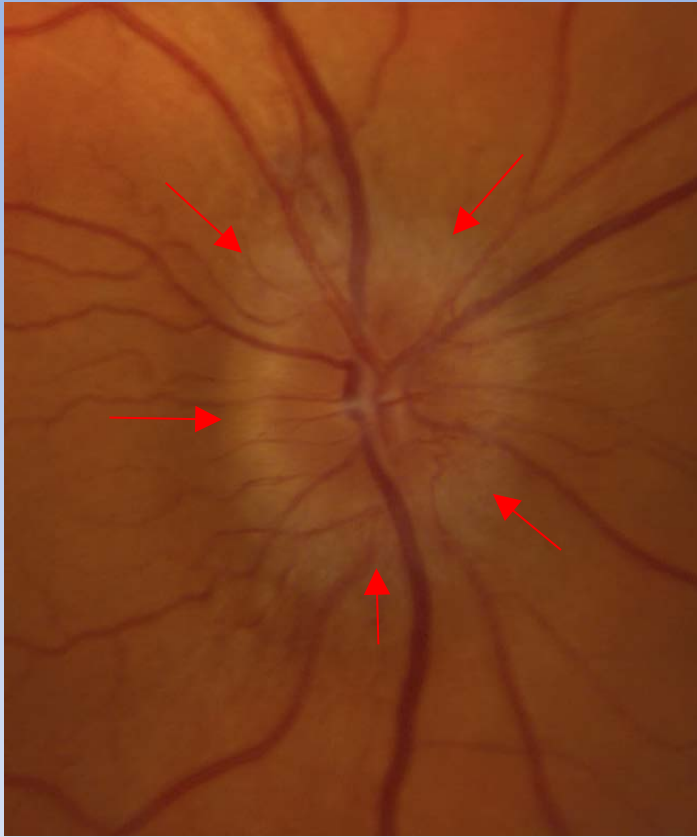


Right eye



Left eye

Figure 1



Right eye

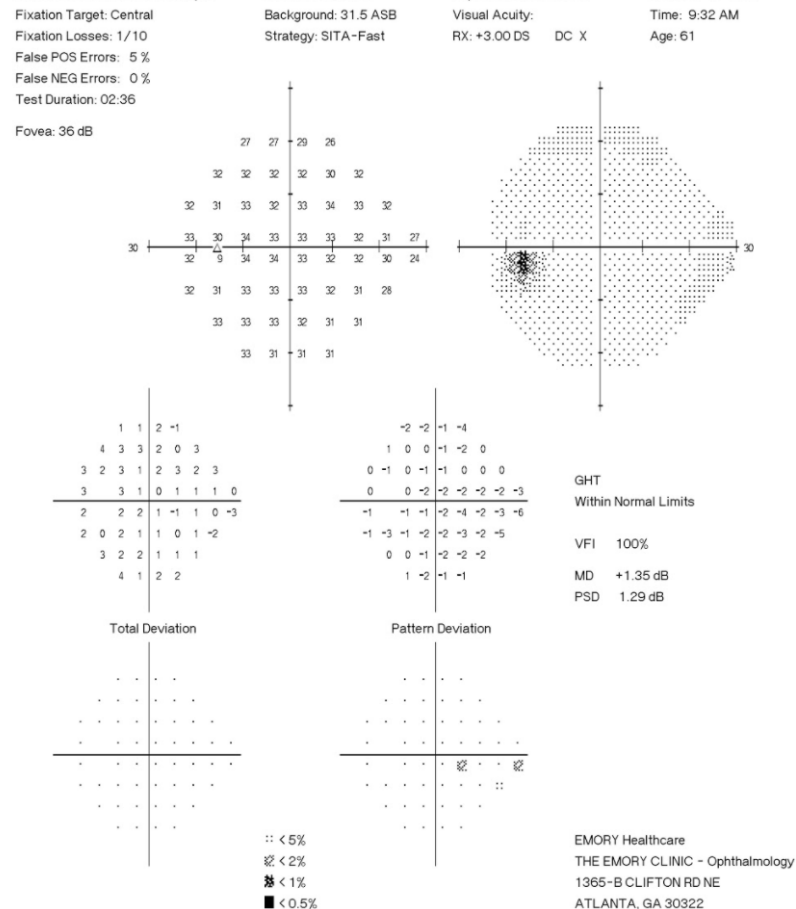


Left eye

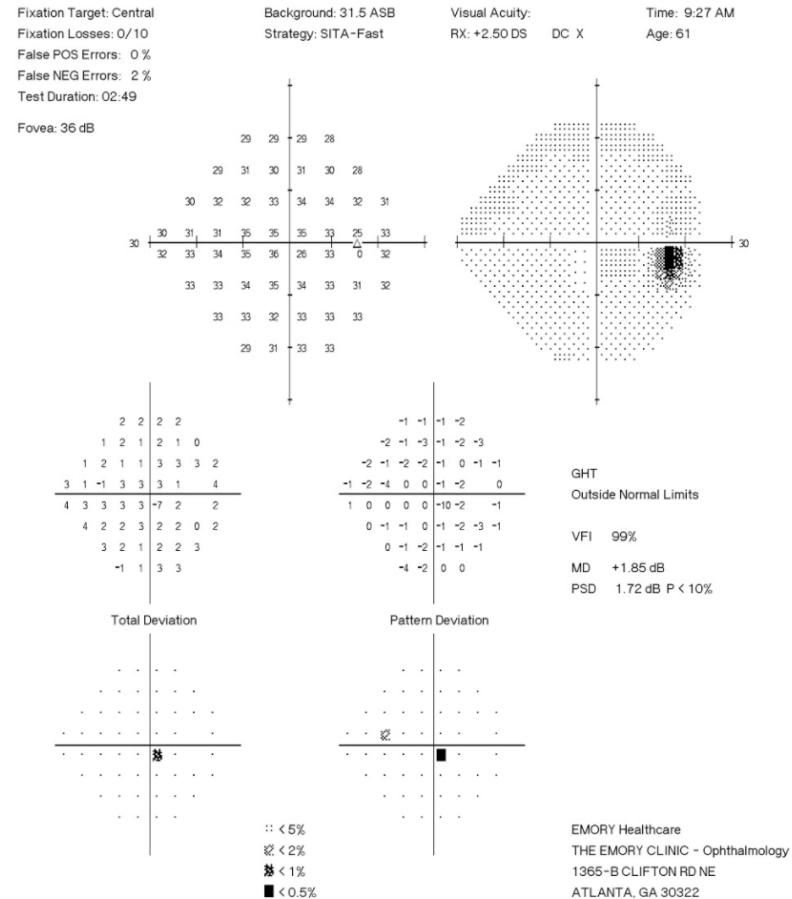
There is mild right optic disc edema (red arrows) and a small, crowded optic disc in the left eye

A relatively small optic nerve with an absent or small physiologic cup is known as a “disc-at-risk”

Figure 2



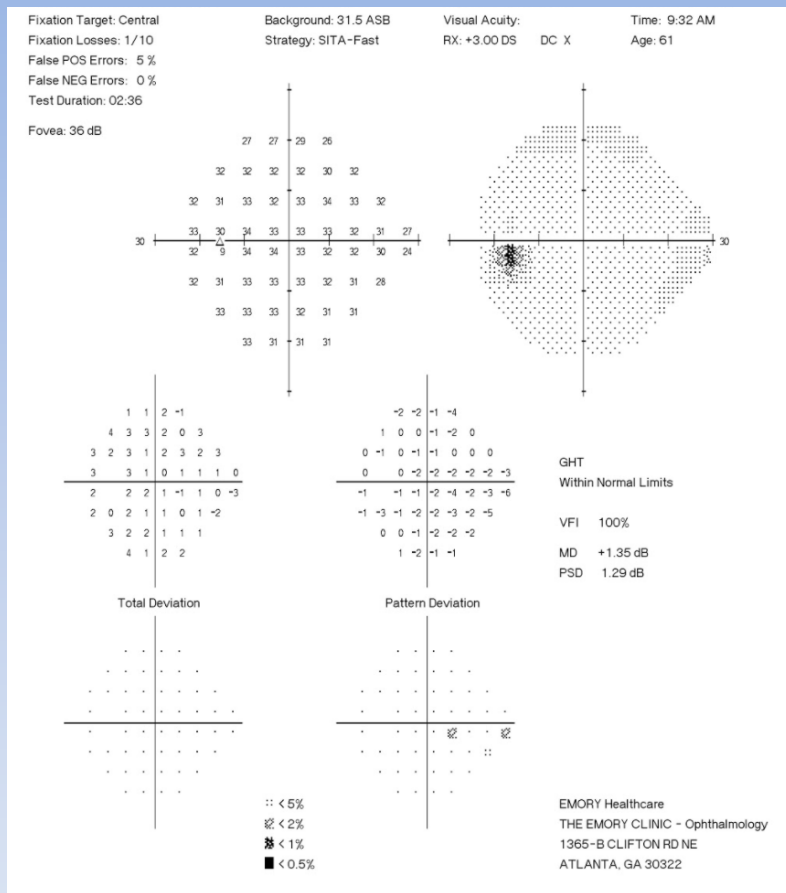
Left eye



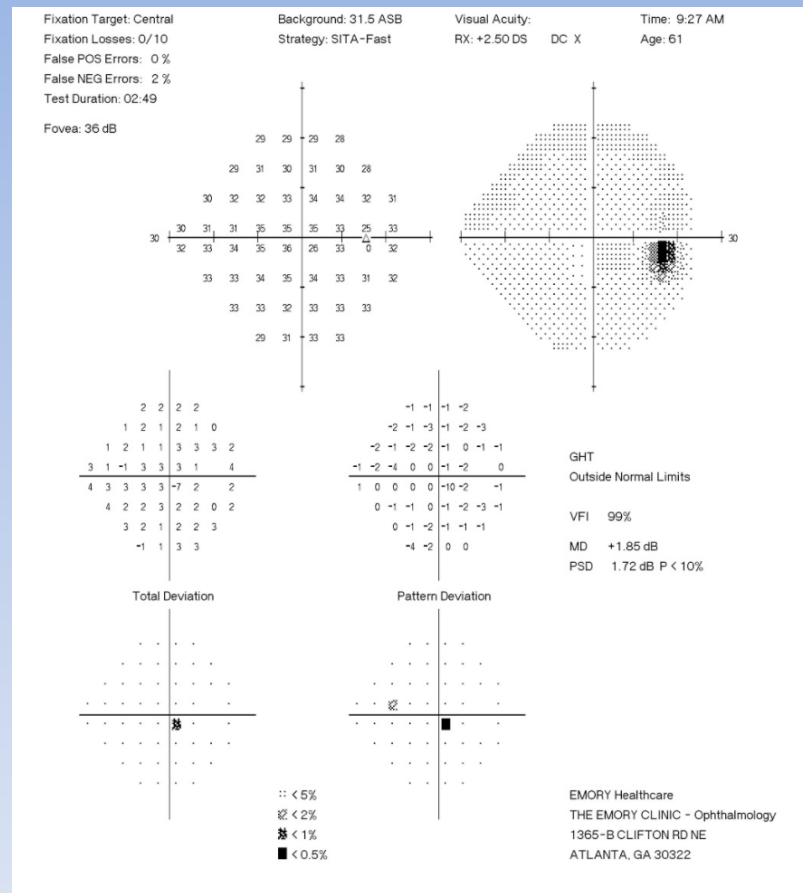
Right eye

24-2 SITA-Fast Humphrey visual fields

Figure 2



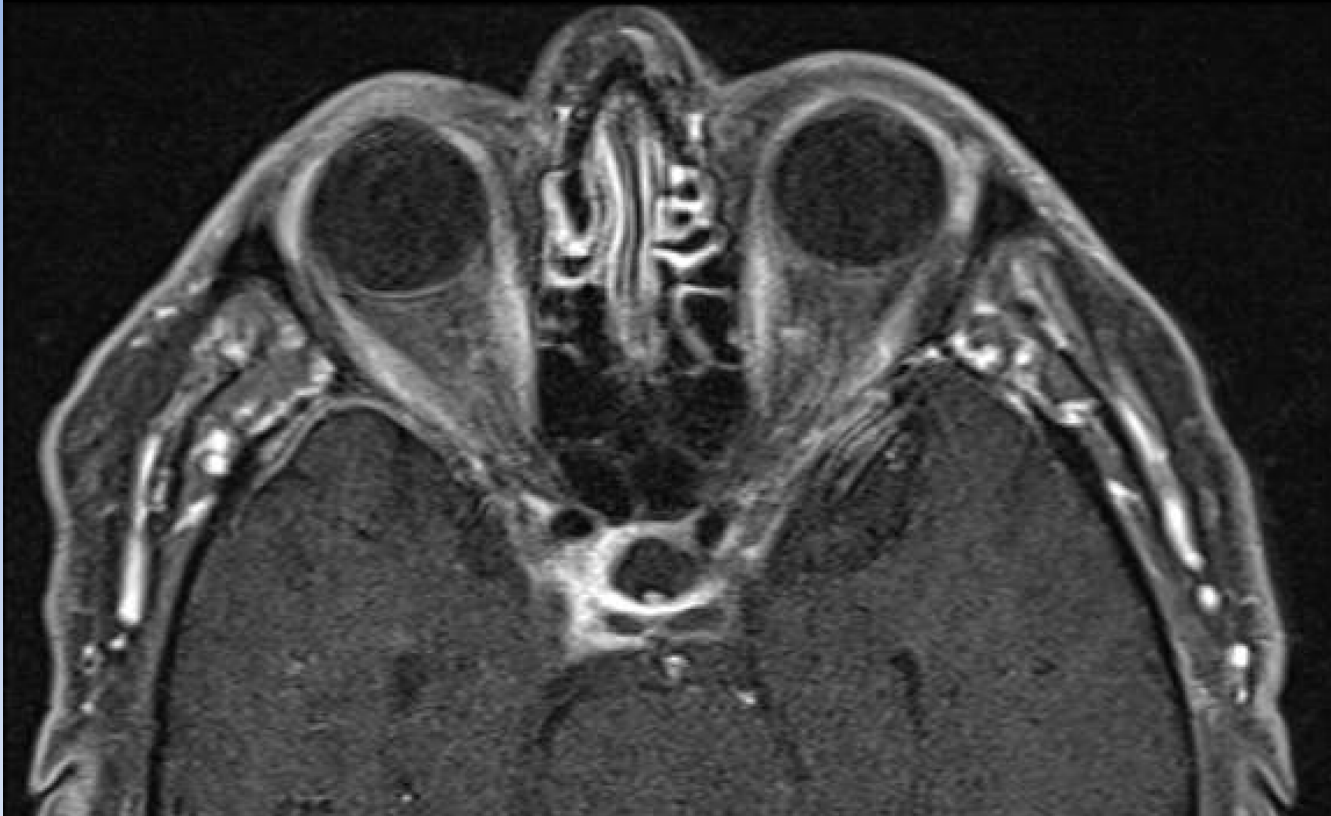
Left eye



Right eye

The visual fields is normal in the left eye and there is one dot of depression in the left eye (the patient is not aware of it and it may be an artefact)

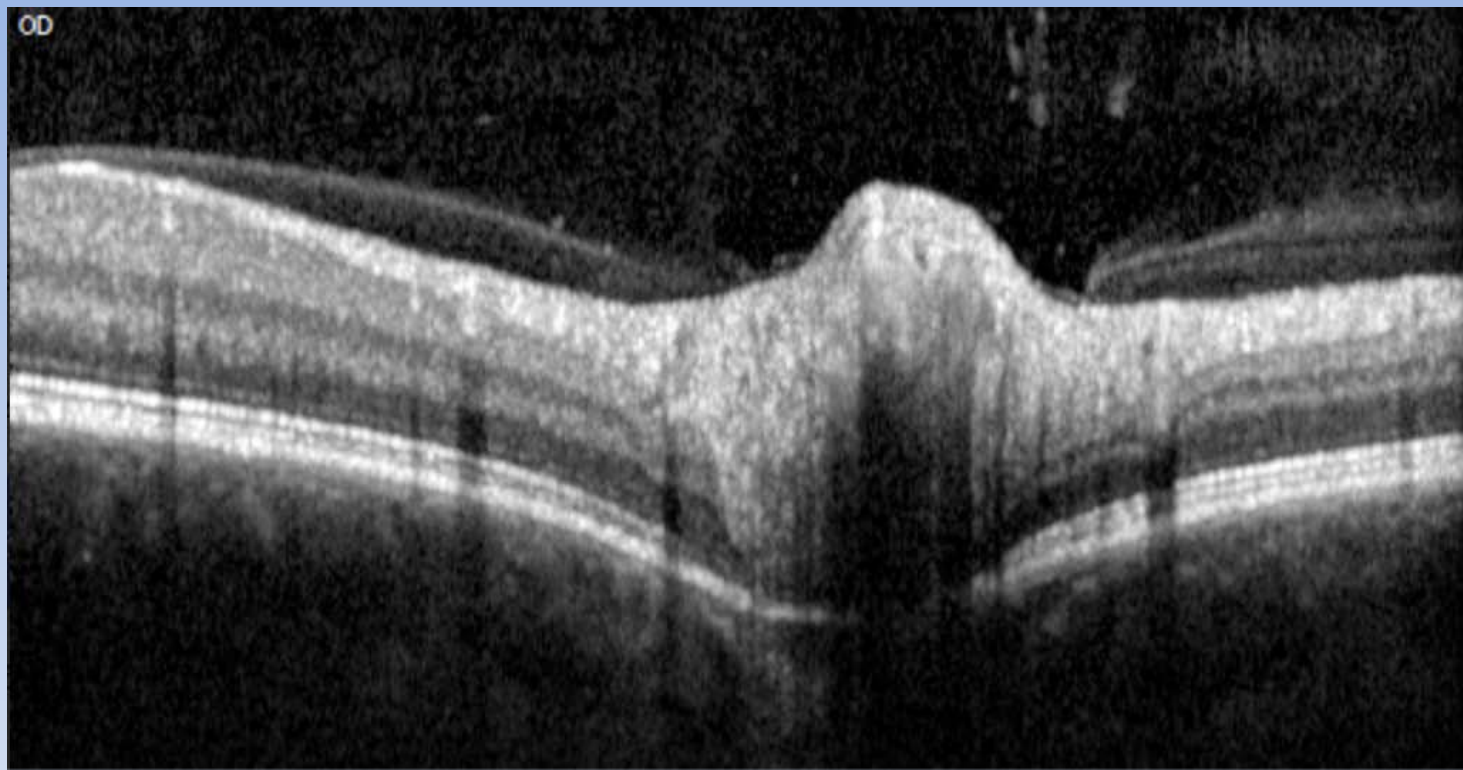
Figure 3



MRI of the orbits (axial T1 with fat suppression post-contrast) was normal without any optic nerve sheath meningioma.

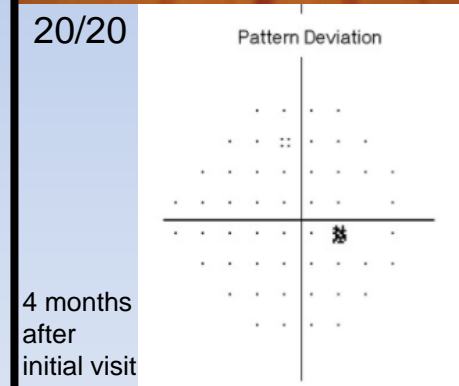
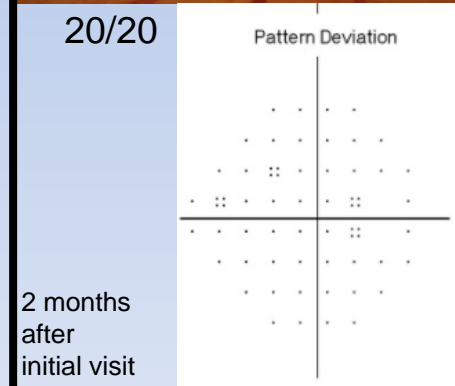
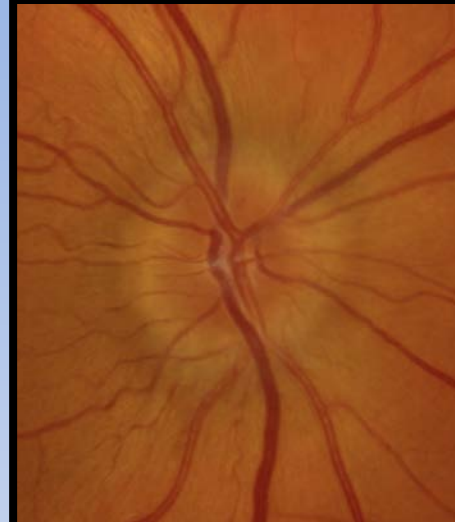
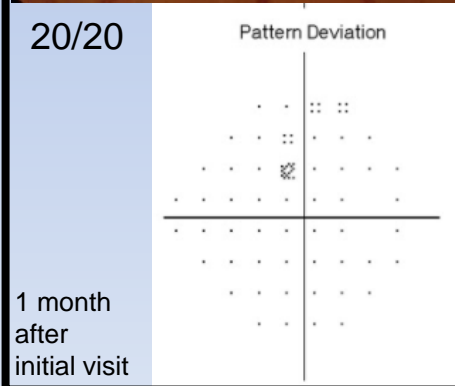
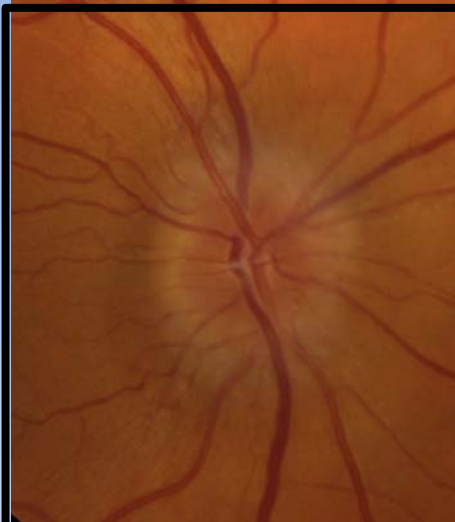
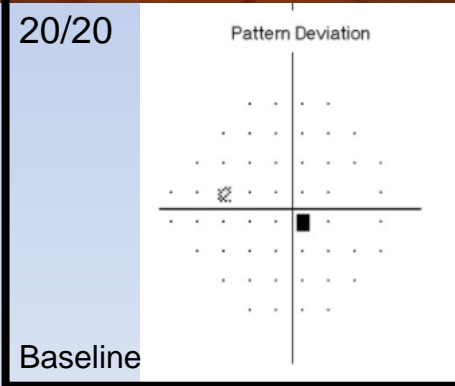
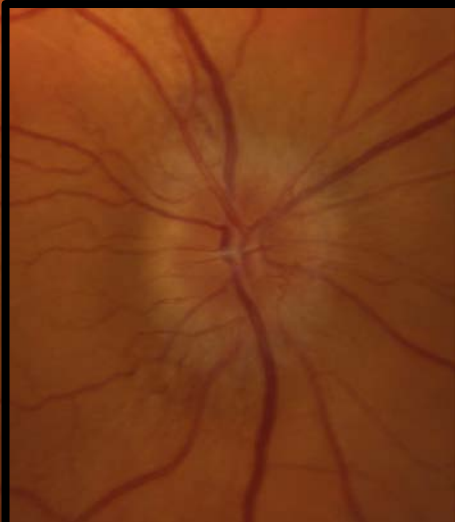
The brain MRI did not show any signs of chronically elevated intracranial pressure

Figure 4



OCT of the optic nerve showed elevation of the swollen nerve, but no signs of vitreopapillary traction

The patient had no symptoms or signs of elevated intracranial pressure, so a diagnosis of presumed “incipient NAION” was made and the patient was followed closely



The patient remained asymptomatic and his disc edema spontaneously resolved 4 months after the initial visit. This is consistent with the natural history of incipient NAION

Figure 5

Summary points:

- Although patients with NAION usually present with sudden vision loss, optic disc edema is sometimes discovered before vision loss. This pre-symptomatic stage is sometimes referred to as “incipient NAION”
- Some patients with incipient NAION do not lose vision as seen in this case
- In a previous study of 60 eyes with incipient NAION, 25% progressed to classic NAION and 20% developed NAION after resolution of incipient NAION¹
 1. Hayreh SS, Zimmerman ZB. Incipient nonarteritic anterior ischemic optic neuropathy. Ophthalmology 2007;114(9):1763-72.
- The most important differential diagnoses of asymptomatic unilateral disc edema include optic nerve sheath meningioma and unilateral papilledema. It is important to obtain an MRI of the brain and orbits with contrast when evaluating these patients