# Bilateral sequential non-arteritic anterior ischaemic optic neuropathy: a case report

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## Introduction

- Non-arteritic anterior ischaemic optic neuropathy (NAAION) is caused by perfusion insufficiency in the short posterior ciliary arteries which leads to infarction of the anterior portion of the optic disc
- It comprises 90-95% of all cases of anterior ischaemic optic neuropathy
- Common risk factors include diabetes, hypertension, hyperlipidaemia, smoking, crowded disc with a small cup, ocular and non-ocular surgery
- Patients present with sudden painless loss of vision, which can be progressive
- Examination findings include RAPD, field loss, swollen hyperaemic optic disc, 'disc at risk' in the fellow eye
- In suspected NAAION it is vital to rule out GCA
- Patients should be referred to GP for vascular assessment and treatment

## Aims

- To report a case of bilateral sequential NAAION

## Methods

- Female patient with sudden onset bilateral sequential vision loss underwent full ophthalmic assessment with MRI head, orbits and spine

## Results I

- 56-year-old female reported 5-day history of reduced vision in the right eye
- Her past medical history included fibromyalgia, hypertension, smoking
- Medication history: Amlodipine, Bendroflumethiazide, Sertraline
- On examination: VAR 6/36, VAL 6/9, bilateral non-tender pulsatile temporal arteries, right RAPD, reduced colour vision in the right eye, right inferior VF loss, right swollen optic disc, BP 149/86
- Bloods sent (CRP 2, ESR 2, rest of blood results unremarkable)
- Diagnosis: right NAAION
- Patient represented 10 days after initial assessment as VAR dropped to HM, there were no new ocular findings, patient was started on Aspirin 75mg OD

## Results II

- Three weeks following initial presentation - VAR HM, VAL 6/9, patient reported sharp pains around the left eye and was worried about losing vision in this eye too, on fundoscopy - small crowded optic disc on the left with no swelling or inflammation, MRI head was requested given patient's high level of anxiety
- Patient attended follow up 2 weeks later – she reported visual field loss in the left eye, VAR HM, VAL 6/9, VF test – superotemporal loss in the left eye, bilateral optic disc swelling, patient diagnosed with bilateral sequential optic neuropathy and started on IV methylprednisolone for 3 days and then switched to oral Prednisolone 60mg daily, uveitis screen was sent
- One week later - VAR HM, VAL 6/60 (PH 6/36), no response to IV steroids, uveitis screen negative, aquaporin 4 and anti-MOG antibodies negative, arranged for plasma exchange
- Two weeks later - VAR and VAL HM, no response to plasma exchange, MRI head –no definitive features of demyelination, MRI spine – NAD, all bloods unremarkable, TAB arranged
- Three weeks later - VAR and VAL CF, TAB – negative
- All investigations for other causes of optic neuropathy, including autoimmune and inflammatory, returned negative
- Given no response to aggressive therapy, steroids were tapered off and the patient was registered blind


Fig 1. OCT of the right optic disc on initial presentation

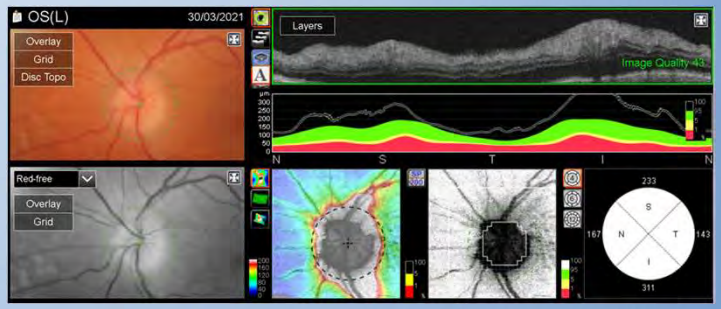


Fig 2. OCT of the left optic disc 4 weeks following initial presentation

## Conclusion

- When considering the diagnosis of NAAION it is important to look for atypical features such as age less than 40 years, pain, bilateral simultaneous onset or rapid sequential vision loss, lack of optic disc swelling or optic disc swelling persisting > 4 weeks, atypical VF defect (eg homonymous hemianopia), lack of vasculopathic risk factors, large cup-to-disc ratio in the fellow eye, macular star
- Diagnosis of NAAION can be made if the patient is in the appropriate age group (typically > 60 years old), vasculopathic risk factors are present and there are no atypical features

## References

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