

Case Report

A Rare Cause of Transient Unilateral Visual Loss-Spontaneous Reflex of Air in The Nasolacrimal Duct

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Abstract

Background

Transient unilateral visual loss is a symptom which can be due to multiple aetiologies.

Methods

We describe a rare cause of intermittent visual loss involving spontaneous reflux of air into the lacrimal sac via the nasolacrimal secondary to increased intranasal pressure.

Summary

Nasolacrimal duct air reflux should be considered as a rare differential diagnosis for transient visual loss and orbital pain

Keywords: Nasolacrimal duct; Nasal Cavity; Vision

Introduction

Orbital emphysema and visual loss is usually associated with facial trauma. We present a case of transient visual loss secondary to reflux of air up the nasolacrimal duct in a patient without a history of acute trauma. Nasolacrimal duct air reflux should be considered as a rare differential diagnosis for transient visual loss and orbital pain.

Case Report

A 38 year-old white British man presented with two episodes

of transient left eye pain, sudden vision loss and syncopal symptoms. These symptoms were always preceded by transient increases in intranasal pressure including; blowing his nose and sneezing. There was no significant previous medical or surgical history of relevance and no history of recent trauma. The patient had sustained minor blunt trauma to the face in a road traffic collision many years previously, but no skull fractures were documented at that time. Ophthalmic examination showed the left eye to be mildly erythematous with a decrease in visual acuity. There was a full range of eye movements and pupillary reflexes were normal. Flexible nasendoscopy showed no abnormality of the nasal cavity. CT Sinuses

showed gas in a distended left nasolacrimal duct with otherwise normal appearances of the orbits and sinuses (Figure 1). Follow up in ENT and ophthalmology outpatient clinic 1 week after presentation found no further episodes reported. Given resolution of symptoms no further imaging was performed.



Figure 1. Computerised tomography axial plain showing air distending the left nasolacrimal duct marked with a red arrow.

Discussion

Intraorbital air is a common finding in the context of facial trauma but the presence of air in the absence of trauma is a very unusual. Retrograde air flow into the nasolacrimal sack has been previously described in association with nasal positive pressure ventilation¹. To our knowledge this is the only case to be presented in the literature of spontaneous reflux of air into the nasolacrimal duct causing acute transient visual loss and pain. Other causes of transient unilateral visual loss include cerebral ischemia, temporal arthritis, retinal arteriolar emboli, amaurosis fugax syndromes². The mechanism of visual loss in the case of reflux of air into the nasolacrimal ducts likely to be due to raised intraorbital pressure. One could hypothesise that transiently raised intraorbital pressures may disrupt blood flow to the optic nerve or retina. Alternatively, there may be a concussive effect on the nerve and retina and neuroelectrical discharge as a result of the rapid expansion of the nasolacrimal duct.

Conclusion

Transient unilateral visual loss is a symptom which can be due to multiple aetiologies.

Spontaneous reflux of air into the nasolacrimal duct is a rare cause of acute transient visual loss and pain.

References

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