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Rare disease

Chloramphenicol – not so innocuous: a case of optic neuritis

Adrian T Fung,[1,3] Bernard Hudson,[2] Frank A Billson[3]

[1]Sydney Eye Hospital, Sydney, New South Wales, Australia;
[2]Department of Microbiology and Infectious Diseases, PaLMS, Royal North Shore Hospital, Sydney, New South Wales, Australia;
[3]Discipline of Clinical Ophthalmology and Eye Health, University of Sydney Medical School, Sydney, New South Wales, Australia

Correspondence to Adrian T Fung, adrianfungi@yahoo.com.au

Summary

The authors present a case of optic neuritis in an adult patient who had been self-prescribing extraordinarily large dosages of chloramphenicol for chronic prostatitis over several years. The visual symptoms resolved upon cessation of the drug and prescription of B group vitamins. Chloramphenicol optic neuritis has not been described in the literature for over 20 years and previously predominantly in children with cystic fibrosis.

BACKGROUND

This case represents a rare but serious complication of a commonly used antibiotic.

CASE PRESENTATION

A 41-year-old gentleman presented to our institution with 2 months of progressive loss of vision worse in the right than in the left eye. He complained of difficulty reading and distinguishing colours at traffic lights. He denied ocular pain or systemic neurological symptoms.

Fifteen years prior he had been diagnosed with chronic bacterial prostatitis and prescribed antibiotics, including penicillin, nitrofurantoin, trimethoprim/sulphamethoxazole and erythromycin. Despite this, he continued to be troubled by chronic prostatic pain and sought further medical advice in the Philippines. There he was advised to take chloramphenicol 5 g once daily orally, doxycyline 100 mg twice daily orally and trimethoprim/sulphamethoxazole 160/800 mg twice daily orally. He continued to take these dosages over 15 years, making annual trips to Hong Kong to source the antibiotics.

On examination, best corrected visual acuity (BCVA) was 6/120 od and 6/60 os. The right eye demonstrated brightness and redness, desaturation to 90% and a grade 1 relative afferent pupillary defect. Cranial nerve and ocular examination was otherwise unremarkable, with normal appearance of the optic discs.

INVESTIGATIONS

Farnsworth Munsell 100 Hue, City University Colour Vision and CSV-1000 Contrast Sensitivity tests were all markedly reduced in both eyes. Humphrey visual field testing demonstrated mild bilateral paracentral depression (mean deviation –5.14dB od, –4.05dB os). Full blood count, serum electrolytes, vitamin B1 (thiamine) and B12, vasculitic markers, syphilis serology, urine toxicology and cerebrospinal fluid analysis were all normal. MRI of brain and orbits (fluid attenuation inversion recovery, T1, T2 with gadolinium contrast) was normal. Multifocal visual-evoked potentials demonstrated increased optic nerve latencies.

OUTCOME AND FOLLOW-UP

A diagnosis of chloramphenicol-induced optic neuritis was made, and both the chloramphenicol and doxycycline were ceased. Vitamin B1 and B12 were prescribed. Four weeks later his BCVA had improved to 6/6 in both eyes.

DISCUSSION

Although rare, the potential for chloramphenicol to induce optic neuritis has been recognised, particularly in the 1960s among children with cystic fibrosis pulmonary disease.[1] This awareness led to a change in practice patterns and reduction in new cases. The last reported case of chloramphenicol optic neuritis in the English literature was in 1988.[2]

In our patient, the diagnosis was made on the basis of optic nerve symptoms and signs, electrophysiology and immediate improvement in vision upon cessation of the medication. Although idiopathic retrobulbar optic neuritis remains a possibility, this is much less likely given the bilateral presentation, absence of pain and rapid visual recovery upon cessation of the medication without administration of intravenous methylprednisolone. Visual recovery following withdrawal of chloramphenicol is consistent with previous reports.[2] Chloramphenicol optic neuritis may be associated with optic disc swelling or pallor, but disc appearances may also be normal.[2]

Electrophysiology of this condition has been studied once before by Godel *et al*.[3] They demonstrated a transient photopic decline in red-light elicited electroretinogram and latency of occipital-evoked potentials.

The pathogenesis of this condition remains uncertain. It appears to be dose dependent, and it has been hypothesised that the drug inhibits the metabolism of vitamin B12 rather than directly reducing serum levels.[2] This is consistent with our case where serum vitamin B12 levels were normal. However, it has also been suggested that the administration of high doses of group B vitamins in

Learning points

- Systemic chloramphenicol has the potential to cause optic neuropathy with significant visual loss.
- If diagnosed early enough, chloramphenicol optic neuropathy may be reversible.
- B group vitamins are recommended for chloramphenicol optic neuropathy, even if serum levels are within the normal range.

patients taking chloramphenicol may prevent optic nerve toxicity.[1] It was with this rationale that group B vitamins were prescribed.

The dosages of chloramphenicol that the patient was self-prescribing were extraordinarily high and are not legally attainable within Australia. Clinicians should be aware that patients travelling overseas may have easy access to medications that are heavily regulated in the country of the practising physician.

Competing interests None.

Patient consent Obtained.

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