Bilateral uraemic optic neuritis complicating acute nephrocalcinosis

Paul Manley¹, Jennifer Somerfield², Ian Simpson¹, Alan Barber² and Jonathan Zwi³

¹Department of Nephrology, ²Department of Neurology and ³Department of Pathology, Auckland City Hospital, Auckland, New Zealand

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Bilateral uraemic optic neuritis is a rare complication of acute renal failure characterized by subacute visual loss, often in the setting of undiagnosed renal disease [1]. Acute renal failure following oral sodium phosphate solution (OSPS), resulting in acute nephrocalcinosis, is being increasingly recognized [2–6]. We describe a patient presenting with visual loss in acute renal failure thought to be precipitated by bowel preparation with OSPS.

An 85-year-old woman presented with subacute, progressive asymmetrical visual impairment. She denied headache, jaw claudication, myalgia or confusion. She had a 10-year history of hypertension and was prescribed a thiazide diuretic and an angiotensin-converting enzyme inhibitor (ACEi) for this. A colonoscopy, to investigate iron deficiency anaemia, had been performed using an OSPS preparation 6 days earlier.

Examination revealed a blood pressure of 160/60 mmHg. Visual acuity was 6/48 in the left eye, and light perception only in the right eye. Mild optic-disc swelling on the right and superior-disc swelling on the left were present. Direct and consensual pupillary reflexes to light were present but sluggish. The remainder of the neurological examination was normal.

Blood tests showed an elevated creatinine of 0.64 mmol/l (0.112 mmol/l 1 month earlier) and urea of 34 mmol/l. Adjusted calcium was 2.22 mmol/l and phosphate 2.36 mmol/l. Immunological and serological markers were normal. A bland sediment and insignificant proteinuria were noted on midstream urine examination. Ultrasound scan of the renal tract revealed moderately echogenic but normal-size kidneys. Renal biopsy demonstrated acute tubular necrosis and widespread calcification. Tubular calcium phosphate deposition was confirmed with positive von Kossa staining. Magnetic resonance imaging of the brain showed T2 hyperintensity of the proximal optic nerves consistent with bilateral optic neuritis.

A diagnosis of bilateral uraemic optic neuritis secondary to acute renal failure on the basis of acute nephrocalcinosis was made. She was managed without dialysis, and blood pressure control optimized. Steroid therapy was tapered over 3 months. Her creatinine fell and plateaued at 0.20 mmol/l. Her vision improved and on review at 3 months, her visual acuity was 6/24 in the left eye, but light perception only in the right.

Bilateral uraemic optic neuritis causes visual loss in the context of acute renal failure. Reported cases have typically presented with bilateral severe visual loss developing over days with oedematous optic discs. In the majority of cases, steroids, haemodialysis or a combination of both have been used with varied outcomes [1].

This case illustrates two important points. Firstly, subacute visual loss in the setting of renal failure may be caused by uraemic optic neuritis. Management of uraemic optic neuritis consists of dialysis and high-dose steroids. In the present case, conservative management of renal failure in conjunction with steroids resulted in an improvement in visual acuity. Secondly, patients with acute renal failure following OSPS may have acute nephrocalcinosis. An alternative agent to OSPS should be considered in the elderly with underlying renal impairment or in those on an ACEi, angiotensin receptor blocker or diuretic therapy to avoid this complication.

Conflict of interest statement. None declared.

References


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