CASE REPORT

Blind drunk

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DrSham84@doctors.org.uk**SUMMARY**

Purtscher's retinopathy is a haemorrhagic and vaso-occlusive retinal vasculopathy, caused by microembolisation occluding retinal and choroidal arterioles. This leads to retinal haemorrhages and ischaemia. The usual cause is severe trauma.¹ However, a variety of conditions including acute pancreatitis, childbirth, long bone fracture, chest trauma and systemic inflammatory vasculitides may cause similar retinal presentations.¹⁻⁴ This highlights Purtscher's retinopathy as a clinically important differential diagnosis of visual loss. We present a case report of a 43-year-old man who was diagnosed with acute pancreatitis. While in hospital he developed sudden onset unilateral loss of vision. This case highlights the need to ensure prompt diagnosis and initiation of appropriate multidisciplinary management.

BACKGROUND

Purtscher's retinopathy was first described in 1912 by Otmar Purtscher in patients who presented with sudden loss of vision shortly after sustaining severe head trauma.⁵

The association between Purtscher's retinopathy and acute pancreatitis was first reported by Inkeles and Walsh in 1975 with an incidence of approximately 0.24 patients/ million.⁵

The pathophysiology involves leucocyte aggregation induced by complement factors and fat emboli from enzymatic digestion of omental fat during an acute episode of pancreatitis.⁶ Fat embolisation leads to arterial occlusion, and consequent infarction of the microvascular bed within the retina.

The most common fundoscopic findings in Purtscher's retinopathy are cotton-wool spots around the optic nerve and intraretinal haemorrhages. These signs indicate retinal ischaemia (figure 1).

CASE PRESENTATION

A 43-year-old Caucasian man was admitted via the Accident and Emergency department with a 36 h history of progressive epigastric and right upper quadrant abdominal pain, which was associated with nausea.

His medical history included hypertension and intermittent heavy alcohol use. He was normally fit and well, lived at home with his wife and remained independent.

The patient reported that his abdominal pain radiated through to his back, and was very severe, requiring the use of intravenous opiates for analgesia. Erect chest and abdominal radiographs showed no evidence of obvious chest pathology, acute perforation or obstruction.

Initial blood tests on admission showed Hb 14.3×10⁹, white cell count 17.3×10⁹, Na 134, K 3.4, Ca 2.08, C reactive protein 192, amylase 2014, lactate dehydrogenase 612, alkaline phosphatase 134 and γ-GT 345. The remaining liver function tests, renal function and arterial blood gas results were normal.

The patient was managed as a case of acute pancreatitis, which involved the administration of analgesia, together with intravenous fluids to provide adequate fluid resuscitation and correct electrolyte imbalances. The patient was catheterised to monitor urine output.

The following morning, an ultrasound scan was undertaken to investigate the biliary tree in order to exclude gallstones as the underlying cause. This scan was negative, therefore it was considered likely that the patient's clinical presentation could be attributed to his recent alcoholic binge.

Later that afternoon, the patient complained of blurred vision in his left eye. He did not report any associated pain or other visual symptoms. The patient was not known to wear glasses or contact lenses, and had no previous visual complaints.

Initial assessment showed an obvious and sudden reduction in visual acuity. An ophthalmology review was sought to formally assess the patient's vision. Funduscopic showed cotton-wool spots and evidence of retinal ischaemia, consistent with Purtscher's retinopathy.

The patient was managed conservatively and discharged home when the underlying pancreatitis had resolved.

INVESTIGATIONS

Abdominal ultrasound scan: no gallstones visualised in a thin walled gallbladder. Normal abdominal viscera, marked oedema around the pancreas.

Figure 1 Funduscopy image of left eye showing cotton-wool spots.

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Fundoscopy: cotton-wool spots and retinal haemorrhages indicating ischaemia in the left eye.

DIFFERENTIAL DIAGNOSIS

Methanol poisoning was considered a possible cause of the patient's blindness owing to his previous history of intermittent heavy alcohol use. However, visual loss owing to methanol poisoning usually presents in a bilateral manner; this cause was therefore considered less likely in light of the patient's unilateral signs.

TREATMENT

No proven treatment exists for Purtscher's retinopathy, aside from control of the underlying disease. Where retinopathy is owing to systemic vasculitis, steroid therapy may be theoretically beneficial.⁷

OUTCOME AND FOLLOW-UP

The patient's acute pancreatitis settled 8 days following admission. He was discharged with outpatient follow-up to assess his visual acuity 6 weeks later; spontaneous visual recovery was observed.

DISCUSSION

Acute pancreatitis is a recognised cause of Purtscher's retinopathy, accounting for up to a third of cases in a recent study conducted in the UK and Ireland. The increasing incidence of acute pancreatitis may be responsible for a subsequent increase in the incidence of Purtscher's retinopathy.⁸

The majority of cases involve bilateral visual loss, although rare unilateral involvement has been described.

The degree of deterioration in visual acuity has been found to be highly variable. Fundoscopic examination frequently reveals macular cotton-wool spots in the posterior pole, together with retinal haemorrhages. Multiple areas of polygonal retinal whitening may be seen between the retinal arterioles. Retinal pigment changes and optic atrophy are observed in severe cases.^{7 8}

The retinal lesions associated with Purtscher's retinopathy typically resolve over time, returning to a normal appearance on funduscopy. In over half of the reported cases, spontaneous visual recovery of at least two Snellen lines has been observed.⁹

Some case reports suggest that treatment of Purtscher's retinopathy with high-dose intravenous steroids may be beneficial. However, the evidence base for this is small and requires further evaluation.¹⁰

Learning points

- ▶ Purtscher's retinopathy is a rare manifestation of acute pancreatitis. The increasing incidence of this condition is likely to be owing to the relative rise in cases of acute pancreatitis. The risk of developing Purtscher's retinopathy has not been found to correlate with the clinical severity of the pancreatic inflammation.
- ▶ In cases of acute pancreatitis, the most appropriate treatment of this ocular complication remains to be established; however aggressive management of the underlying pancreatic inflammation is key.
- ▶ There may be a role for routine fundoscopic examination in patients presenting with acute pancreatitis, in a similar manner to that undertaken in cases of arterial hypertension or diabetes mellitus in order to identify visual disturbances.

Competing interests None.

Patient consent Obtained.

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