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Sir,

Valsalva Haemorrhagic Retinopathy in a Pregnant Woman

The term 'Valsalva haemorrhagic retinopathy' describes an entity in which a sudden rise in intrathoracic or intra-abdominal pressure causes a rapid rise of intravenous pressure within the eye with spontaneous rupture of superficial retinal capillaries. Affected patients may give a history of sudden visual loss during or after activities such as heavy lifting, straining at stool, coughing or vomiting.¹ We report the following case which demonstrates these clinical features.

Case Report

A 26-year-old woman who was in her second trimester of pregnancy complained of blurred vision a few days after an episode of vomiting. She was otherwise well with no past medical or ocular history

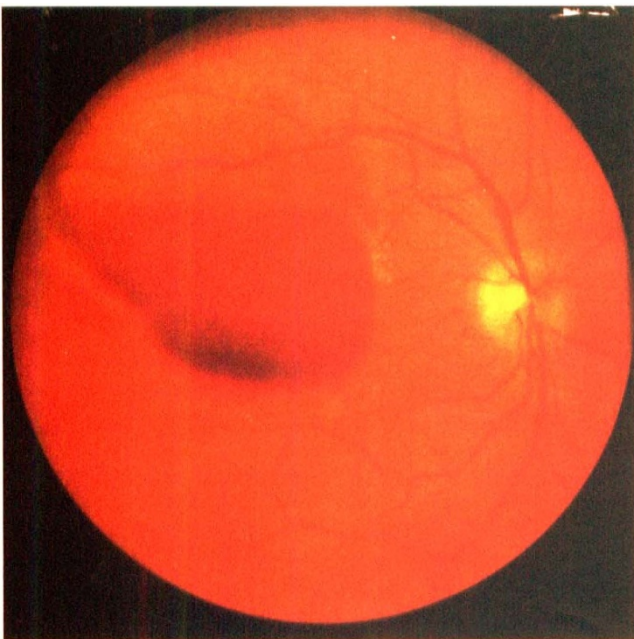


Fig. 1. Large preretinal haemorrhage at macula with fluid level. (Hard exudates at nasal limit of haemorrhage.)

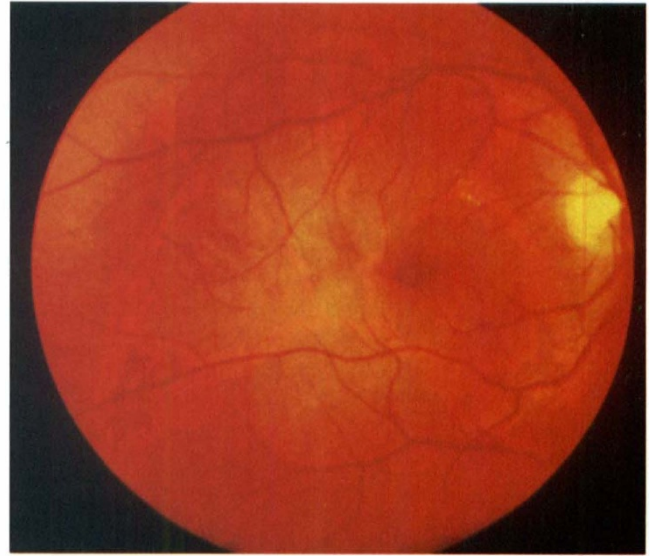


Fig. 2. Almost total resolution of preretinal haemorrhage 6 months later.

of note. Her best corrected visual acuities were counting fingers at 1 m on the right, 6/6 on the left.

Ocular examination showed normal anterior segments, and a large preretinal haemorrhage at the macula on the right (Fig. 1). Obstetric examination detected no abnormality and coagulation studies were normal.

Management consisted of rest, avoidance of strenuous activities, and regular observation at almost 2 weekly intervals including fundus photography. Spontaneous resolution over a 6 month period was demonstrated (Fig. 2), with a final corrected visual acuity of 6/6. Following delivery of a healthy male infant at full term, a fluorescein angiogram was performed which showed no abnormality (Fig. 3).

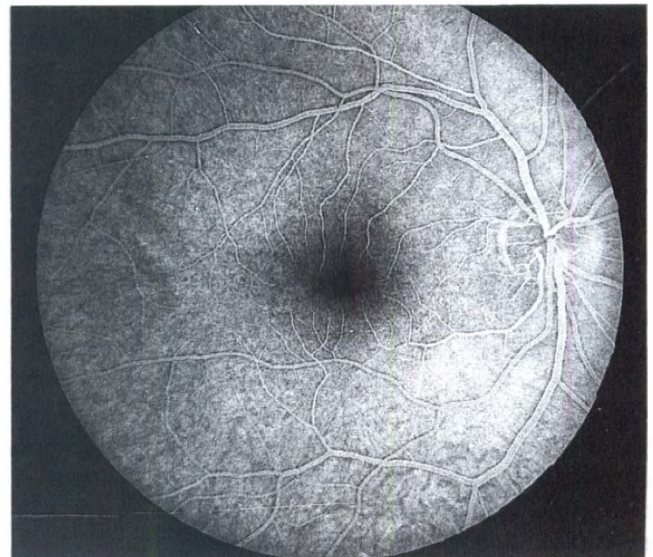


Fig. 3. Mid-venous phase fluorescein angiogram showing normal retinal vasculature.

Discussion

The sudden rise in intra-abdominal pressure which occurs in vomiting may lead to the rupture of superficial retinal capillaries. In Valsalva haemorrhagic retinopathy funduscopy shows haemorrhagic detachment of the internal limiting membrane, intraretinal haemorrhage and/or vitreous haemorrhage. Typically there is a circumscribed round or bilobed preretinal haemorrhage at the posterior pole which may develop a fluid level, as in our case. As the haemorrhage clears, visual acuity usually returns to normal.

Our case fits this clinical profile exactly and the absence of any underlying abnormality on fluorescein angiography helps to confirm the clinical diagnosis.

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Sir,

A Simple Method of Warming Local Anaesthetic Solutions

Several authors have reported a decrease in pain associated with the injection of local anaesthetic warmed to body temperature.^{1,2} This practice was first described by Boggia in 1967.³ A double-masked randomised cross-over study of 40 healthy volunteers given a 1 ml subcutaneous injection of 1% lignocaine at 20°C and 30°C showed a statistically significant



Fig. 1. A baby milk warmer being used to warm local anaesthetic solution.

reduction in pain score at the higher temperature.⁴ A further study of 136 patients undergoing facial injection with 2% procaine demonstrated a statistically significant linear correlation between mean pain score and temperature of local anaesthetic between 10°C and 42°C.⁵

The mechanism by which warming reduces discomfort is not clear but there are several possible explanations. A colder solution may cause greater nociceptor stimulation. An alternative is that warming the solution may cause a change in the pKa resulting in more rapid onset of neuronal blockade.⁶ This has been demonstrated in regional anaesthesia in a double-masked study of 44 patients receiving caudal blocks.⁷

The technique of warming local anaesthetic is widely practised by dental practitioners but is rarely used in other fields of medicine. An ever-increasing amount of ophthalmic surgery in the United Kingdom is carried out using local anaesthesia. Any modification to avoid patient discomfort would be of obvious benefit. Precise control of local anaesthetic temperature can be achieved cheaply and effectively by using a thermostatically controlled baby milk warmer (Fig. 1). These are widely available in the retail market and currently cost approximately £20.

Other factors have been shown to decrease discomfort, including reducing the speed of injection, diluting the strength of the anaesthetic or altering the pH.⁸ In addition to these factors, anecdotal and trial evidence has shown that temperature has a strong influence on levels of discomfort. We suggest that the baby milk warmer is a simple, cheap and effective method of heating these solutions accurately to the required temperature.

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