**LETTERS TO THE EDITOR**

**Adverse effects of subconjunctival injections of mydriatic agents**

Sir,—The adverse effects of mydriatic agents are well described. When using these drugs one must carefully consider the relevant medical history. The uveitic patient with early posterior synechiae and concomitant systemic disease is illustrative of this problem. We report a serious complication in a patient treated with mydriatic agents.

A 26-year-old male had a 10-day history of photophobia, fatigue, and fever for several months. On examination his vision was 20/40 and the pupils were constricted secondarily to 27° posterior synechiae. He had hyperaemic conjunctivae, diffuse ‘mutton-fat’ keratic precipitates, and 3+ cells. Dilatation with topical and pledget soaked tropicamide 1% and phenylephrine 2.5% was unsuccessfully attempted. The patient returned 24 hours later, and a mixture of two drops (100 μl) each of tropicamide 1%, atropine 1%, and phenylephrine was injected subconjunctivally at the inferior limbus of the right eye. This mixture comprised 7 mg of phenylephrine, 1 mg of atropine, and 1 mg of tropicamide. The patient immediately developed severe headache, drying of the nose, and diaphoresis. His pulse was 110 per minute and blood pressure of 160/110 mmHg.

He was taken to the emergency room, where he was found to be in respiratory failure. Chest x-ray revealed diffuse interstitial infiltrates not present on the previous day’s films. The patient was intubated, and Swan-Ganz catheterisation revealed a pulmonary wedge pressure of 8 mm. He was transferred to the intensive care unit for management of non-cardiogenic pulmonary oedema. Subsequent diagnostic testing was consistent with a diagnosis of sarcoidosis. The pulmonary oedema resolved and the patient was discharged on topical steroids with subsequent resolution of the iritis.

This is the first reported case of non-cardiogenic pulmonary oedema associated with the use of mydriatic drugs. Both atropine and tropicamide are anticholinergic drugs whose actions include relaxation of the circular muscle of the iris and paralysis of the ciliary muscle. The principal adverse cardiodiopulmonary effect of these drugs is tachycardia. Phenylephrine, a potent, direct-acting, and selective α1 agonist exerts its main mechanism of action by stimulation of α receptors of the dilator pupillae.1 Stimulation of these receptors can cause constriction of the systemic, pulmonary, and coronary arteries, leading to severe hypertension, headache, ventricular arrhythmias, myocardial infarction, and cardiac arrest.1 It is conceivable that in our patient phenylephrine may have produced severe pulmonary vasocostriction leading to alveolocapillary damage and consequent non-cardiogenic pulmonary oedema. In addition our patient had pre-existing pulmonary sarcoidosis, which may have increased his susceptibility to lung injury from other insults.

Subconjunctival injections of mydriatic agents to forcibly dilate pupils with synechiae is recommended2 and is commonly used in several eye centres. These injections, especially in hyperaemic conjunctivae, can lead to enhanced systemic absorption and serious complications. We advise extreme caution when using this method of administering dilating agents.

Requests for reprints to: Ilan Harstein.


**Branch retinal artery occlusion in toxoplasma retinochoroiditis**

Sir,—Although toxoplasma retinochoroiditis may cause retinal vein occlusion, vascular remodelling, and even retinochoroidal anastomosis,1 retinal artery obstruction is rare.2 We have recently studied a patient suffering from such a complication.

An 18-year-old student attended in March 1989, 24 hours after the sudden loss of inferotemporal field in the right eye, which was confirmed by automated perimeter. A branch retinal artery occlusion was found in a corresponding area of focal retinochoroidal inflammation. Some areas of peripheral retina were also seen peripherally. Fluorescein angiography confirmed occlusion of the artery within the area of inflammation (Fig 1). Antibodies to toxoplasma were detected by latex agglutination at serum dilutions of more than 1:1000.

**Corneal penetration by tarantula hairs**

Sir,—Tarantulas are large, hairy spiders belonging to the family Theraphosidae. Their popularity as pets parallels the increasing popularity of exotic pets in general. Although their bite is virtually harmless to humans, many species of New World tarantulas possess potent urticating hairs on the dorsal surface of the abdomen.3 When threatened, the spiders rapidly stroke their hind legs in a vibratory fashion on the dorsal hairs, extruding a cloud of barbed hairs at the attacker. Some species may incorporate urticating hairs into their retreats or webs. These hairs, each possessing multiple barbs, are capable of penetrating deeply into skin, and causing intense and prolonged urticaria in humans.4 In addition to dermatological trauma tarantula hairs are capable of embedding into the ocular tissues and producing an inflammatory reaction in the eye.5 Due to its small calibre, offending hairs could easily be overlooked without a slit-lamp examination of the anterior segment.

A 13-year-old boy reported feeling severe foreign body sensation in both eyes within five minutes of stroking his pet tarantula. This was followed by intense pruritus, tearing, conjunctival injection, and eyelid swelling, thus prompting the patient to rub his eyes vigorously with his fingers. The eye rubbing further aggravated his discomfort. The patient was seen that day by his family physician, who treated him with antibiotic eye drops. The symptoms and signs showed only minimal resolution after three weeks of treatment, the patient was referred for ophthalmological con-