

differentiate from amelanotic melanoma. The primaries for iris metastasis include breast, lung, carcinoid, melanoma, colon, oesophagus, larynx, prostate, kidney,⁵ uterus⁸ and cervix.⁹

Various investigations are required to confirm the diagnosis. Fluorescein angiography of the anterior segment is a useful tool and shows the lesion as hypofluorescent in the early stages with late hyperfluorescence. Ultrasound biomicroscopy,¹⁰ whilst confirming the solid nature of the lesion and the extent of any posterior (ciliary body) extension, cannot differentiate between primary and secondary tumours. Fine needle aspiration biopsy^{11,12} was therefore required to establish the diagnosis.

This case illustrates that though non-invasive tests may provide information about the lesion a fine needle aspiration biopsy still remains one of the definitive investigations for any iris lesion.

References

1. Nelson CG, Hertzberg BS, Klintworth GK. A histopathological study of 716 unselected eyes in patients with cancer at the time of death. *Am J Ophthalmol* 1983;95:788-93.
2. Shakin EP, Shields JA, Augsburger JJ. Metastatic cancer to the uvea and optic disc: analysis of 200 patients. In: Bornfield N, Gragoudas ES, Hopping W, Lommatzsch PK, Wessing A, Zografos L, eds. *Tumors of the eye*. Amsterdam: Kugler, 1991:623-31.
3. Shields JA, Shields CL. *Intraocular tumours: a text and atlas*. Philadelphia: WB Saunders, 1992:207-38.
4. Sierocki JS, Charles NC, Schafrank M, Wittes RE. Carcinoma metastatic to the anterior ocular segment: response to chemotherapy. *Cancer* 1980;45:2521-3.
5. Shields JA, Shields CL, Kiratli H, de Potter P. Metastatic tumors to the iris in 40 patients. *Am J Ophthalmol* 1995;119:422-30.
6. Shields CL, Shields JA, Gross N, Schwartz G, Lally S. Survey of 520 uveal metastases. *Ophthalmology* 1997;104:1265-76.
7. Woog JJ, Chess J, Albert DM, Dueker DK, Berson FG, Craft J. Metastatic carcinoma of the iris simulating iridocyclitis. *Br J Ophthalmol* 1984;68:167-73.
8. Capeans C, Santos L, Sanchez Salorio M, Forteza J. Iris metastasis from endometrial carcinoma. *Am J Ophthalmol* 1998;125:729-30.
9. Kurosawa A, Sawaguchi S. Iris metastasis from squamous cell carcinoma of the uterine cervix: case report. *Arch Ophthalmol* 1987;105:618.
10. Grossniklaus HE, Brown RH, Stulting RD, Blasberg RD. Iris melanoma seeding through the trabeculectomy site. *Arch Ophthalmol* 1990;108:1287-90.
11. Scholz R, Green WR, Baranano EC, *et al*. Metastatic carcinoma to the iris: diagnosis by aqueous paracentesis and response to irradiation and chemotherapy. *Ophthalmology* 1983;90:1524-7.
12. Pavlin CJ, McWhae JA, McGowan HD, Foster FS. Ultrasound biomicroscopy of anterior segment tumors. *Ophthalmology* 1992;99:1220-8.

M. Gupta¹

P. Puri¹

R. Jacques²

I.G. Rennie¹

¹Department of Ophthalmology
Royal Hallamshire Hospital
Sheffield S10 2JF, UK

²Department of Nursing
Royal Hallamshire Hospital
Sheffield S10 2JF, UK

Mr Mohit Gupta ✉
Department of Ophthalmology
Royal Hallamshire Hospital
Glossop Road
Sheffield S10 2JF, UK

Sir,

Supraventricular ectopics and supraventricular tachycardia following injection of subconjunctival Mydracaine No. 2

Subconjunctival Mydracaine is commonly used in the management of acute anterior uveitis to provide mydriasis when topical treatments have failed. Mydracaine No. 2, being an unlicensed product, is not listed in the British National Formulary (BNF), Monthly Index of Medical Specialties (MIMS) or ABPI Data Sheet Compendium. This makes case reports within journals the main mode for identifying previously recorded side effects. We describe a case involving a patient with no previous cardiovascular history developing supraventricular ectopics, progressing to a supraventricular tachycardia following administration of subconjunctival Mydracaine No. 2. We are unaware of this complication being reported previously.

Case report

A 76-year-old man had been attending eye casualty for 2 weeks with a viral disciform keratouveitis affecting his right eye. He was receiving topical steroid having previously received a course of topical aciclovir. Visual acuities were: right eye 6/60, left eye, counting fingers. During follow-up review he was noted to have 2+ cells and flare in the anterior chamber and 360° posterior synechiae in the right eye. Dilatation was attempted using initially tropicamide 1%, then cyclopentolate 1% and finally atropine 1% drops. A period of 30 min was left between drops. Unfortunately mydriasis did not occur and a decision was made to give subconjunctival Mydracaine No. 2, 0.3 ml, to facilitate mydriasis and break the posterior synechiae.

The patient had no previous cardiac history and nothing to suggest contraindication to the Mydracaine injection. His pulse rate prior to injection was 80 beats/min and regular. Two minutes after administration of the subconjunctival Mydracaine No. 2 the patient complained of palpitations; there was no shortness of breath or chest pain. Cardiovascular examination revealed an irregular pulse, with a rate of 110 beats/min. He was haemodynamically stable. An electrocardiogram (ECG) confirmed sinus rhythm and supraventricular ectopics at a rate of 100 beats/min (Fig. 1). Whilst undertaking the ECG the patient complained of breathlessness and was found at this stage to have a pulse rate of 200 beats/min, with the ECG showing a supraventricular tachycardia

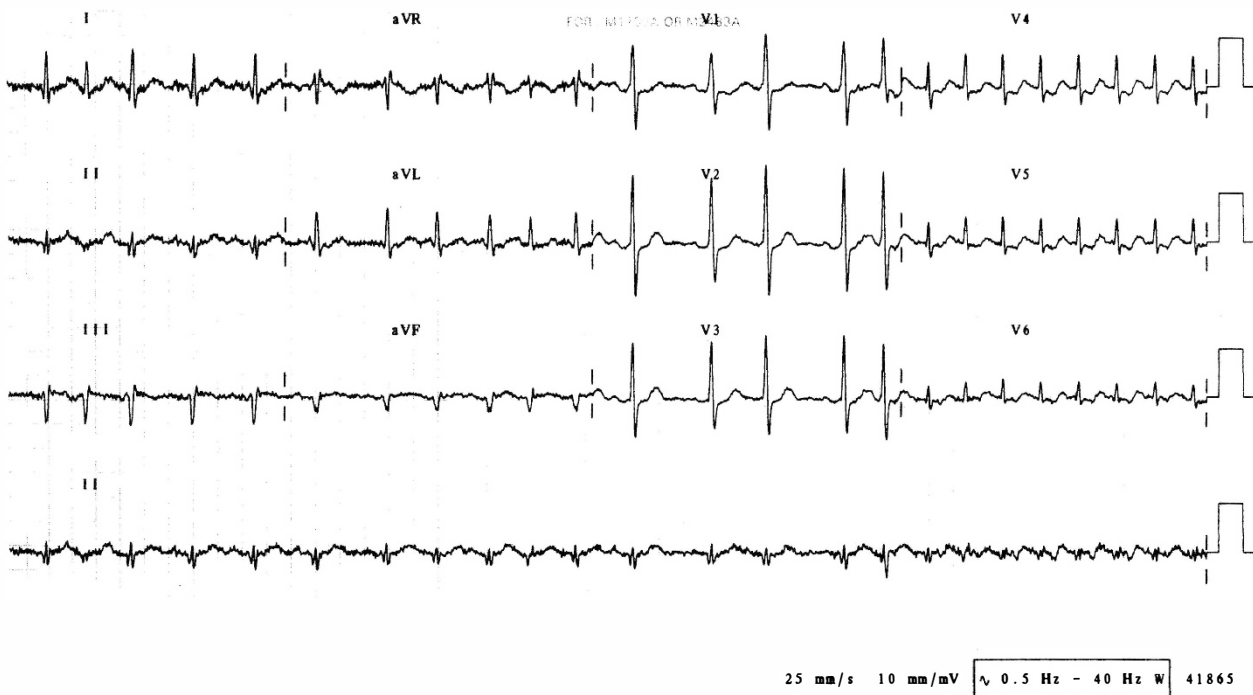


Fig. 1. ECG showing sinus rhythm with supraventricular ectopics.

(Fig. 2). This resolved over a period of 5 min and the supraventricular ectopics resolved over a period of 1 h, confirmed by ECG (Fig. 3). Electrolyte levels were found to be within the normal range. The patient was discharged later following physician review, to attend for a cardiology outpatient appointment.

Comment

Mydracaine No. 2 (Martindale Pharmaceuticals) is an unlicensed product composed of procaine hydrochloride 6 mg, atropine sulphate 1 mg and adrenaline acid tartrate 216 µg in a 0.5 ml vial. Mydracaine No. 1 contains half the amount of atropine and procaine.

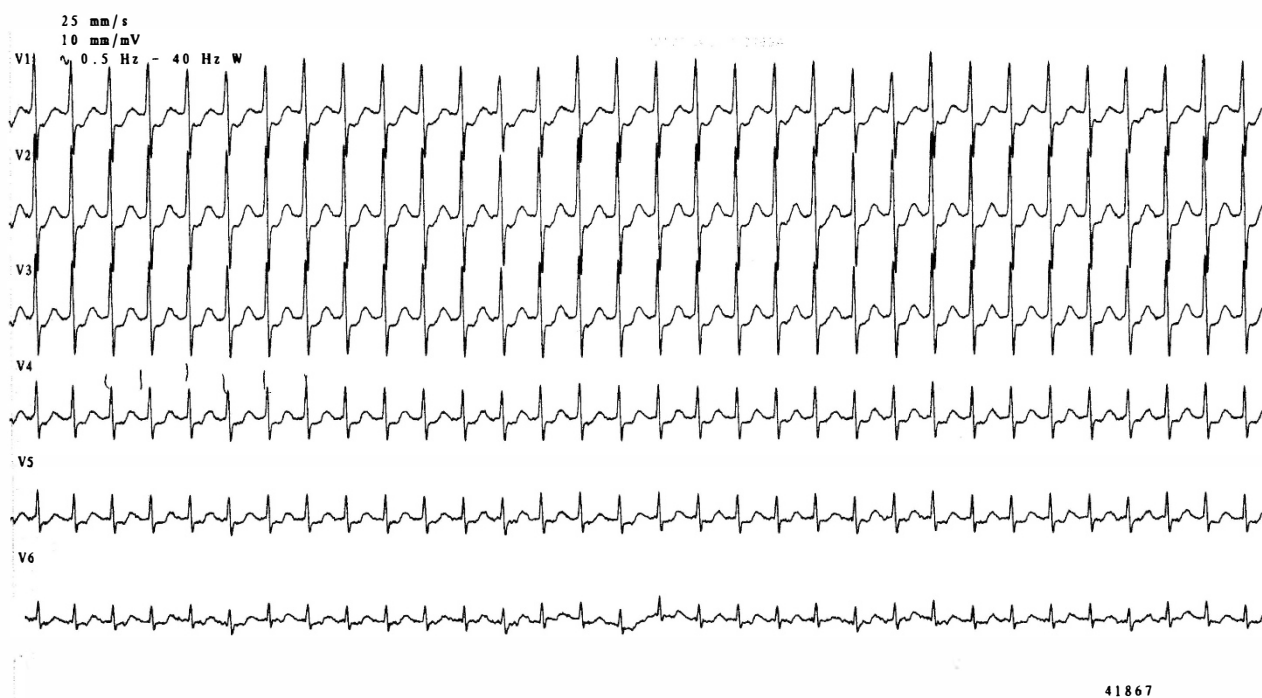


Fig. 2. ECG showing supraventricular tachycardia.

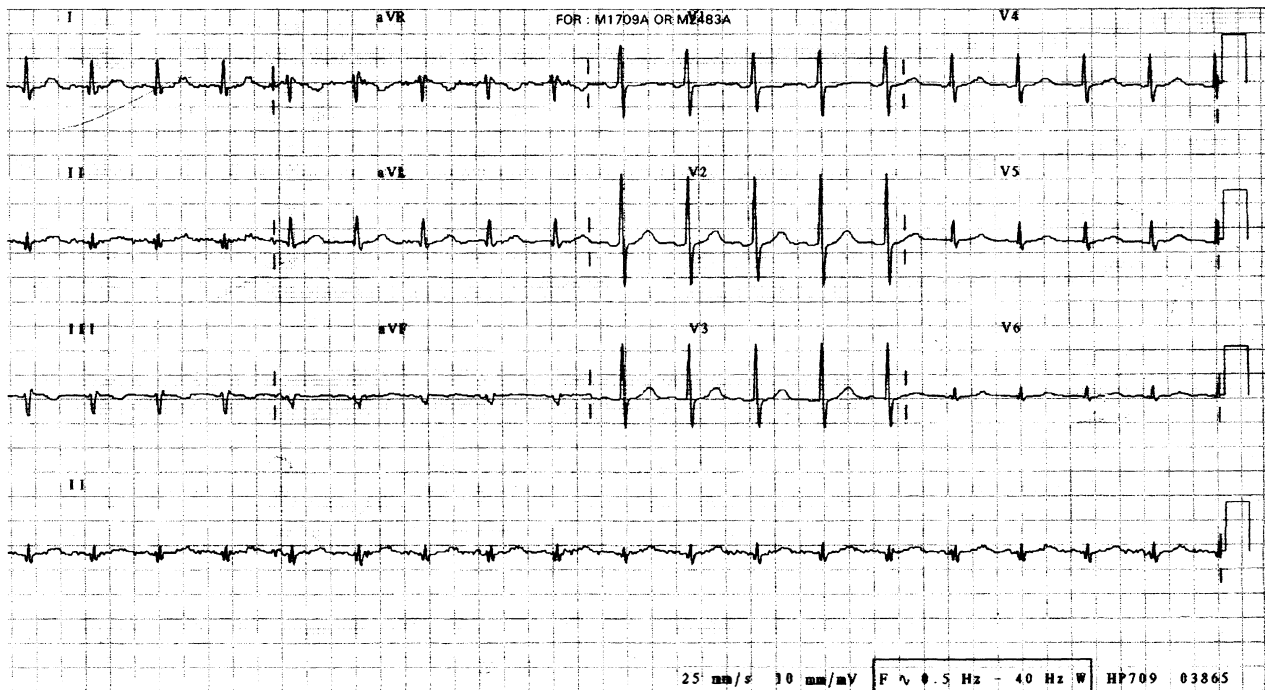


Fig. 3. ECG showing sinus rhythm following resolution of the arrhythmia.

Steel and Thorn¹ showed Mydracaine No. 1 to produce tachycardia and hypertension in 20% of patients. A case study of a patient with a known cardiac history developing myocardial ischaemia following subconjunctival Mydracaine No. 2 has been reported.² To our knowledge there are no reported cases of any patient developing supraventricular ectopics and supraventricular tachycardia following subconjunctival injection of Mydracaine No. 2.

Due to the fact that Mydracaine No. 2 is produced under special licence it is not listed in the BNF or MIMS and there is no data sheet provided with this drug, which makes it difficult to find information regarding possible side effects resulting from its usage. Steel and Thorn¹ suggested that observations be performed during and following administration of Mydracaine, though the form and timing of these observations has not been specified. We suggest that administration guidelines for this commonly used formulation should be drawn up. Being an unlicensed product the responsibility following administration lies with the prescriber,⁴ who unfortunately at present does not have access to possible complications that may result from its usage.

References

1. Steel DH, Thorn J. The incidence of systemic side effects following subconjunctival Mydracaine No. 1 injection. *Eye* 1999;13:720-2.
2. Pandit JC. Tachycardia and myocardial ischaemia following subconjunctival injection of Mydracaine No. 2. *Eye* 1994;8:599-608.
3. Hartstein I, Deutsch N. Adverse effects of subconjunctival injection of mydriatic agents [letter]. *Br J Ophthalmol* 1991;75:253.

4. Prescribing unlicensed drugs or using drugs for unlicensed indications. *Drugs Ther Bull* 1992;30:97-9.

Graeme Williams
Sathish Srinivasan
Tennent Institute of Ophthalmology
Gartnavel General Hospital
Glasgow
Scotland, UK
G. Williams
Tennent Institute of Ophthalmology
Gartnavel General Hospital
Great Western Road
Glasgow G12 0YN
Scotland, UK

Sir,

Leber's hereditary optic neuropathy following trauma

Leber's hereditary optic neuropathy (LHON) usually presents as subacute, bilateral, sequential optic neuropathy and is associated with mutations in mitochondrial DNA.¹ Environmental factors including alcohol and tobacco may play a role in precipitating neuropathy.

We report a case of LHON following relatively mild trauma and discuss the implications for our understanding and diagnosis of this unusual condition.

Case report

An 18-year-old man was seen within a few hours of an assault during which he had been punched in the face several times. He had not lost consciousness and there was no radiological evidence of any fracture.