·Letter to the Editor·

New onset atrial fibrillation following sub-Tenon´s anaesthesia

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Dear Sir,

We write to report a case of new onset atrial fibrillation following sub-Tenon's block.

Cataract surgery is nowadays mostly performed as a day case procedure with 95.5% of surgery performed under local anaesthesia. This can be done with sub-Tenon's, retrobulbar, peribulbar, intracameral or topical anaesthesia[1]. Sub-Tenon's anaesthesia involves opening the conjunctiva and tenon's layers with curved scissors followed by injection of local anaesthesia under tenon's layer with a blunt curved cannula. This is a relatively atraumatic process as no sharp needles are involved unlike retrobulbar orbital blocks. Complications are usually localised to the eye [2]. There are few unusual reports of death and few cases of dysrhythmias following sub-Tenon's block[3,4].

An 88 year-old man with a past medical history of 2 myocardial infarctions and no diabetes was given a sub-Tenon's block prior to cataract surgery with lens implantation. His preoperative blood pressure was 150/70mmHg and his pulse was regular at 62beats/min. A recent electrocardiogram was unremarkable. Following topical anaesthesia, the conjunctiva and sub-Tenon's layers were opened with curved scissors and a blunt cannula was used to administer 2mL of 2% lignocaine and 2mL of 0.5% bupivacaine in the sub-Tenon's space resulting in adequate akinesia. The patient did not complain of any discomfort at the time of administration of the local anaesthesia. It was noticed that his pulse had dropped to 36beats/min during phacoemulsification. The procedure was paused and the patient was asked if he had any chest pain/tightness, shortness of breath or any other discomfort. He was absolutely fine and the procedure was completed without any complications. A post-operative cardiovascular examination revealed an irregular pulse. This was confirmed on electrocardiography (Figure 1). A medical opinion was sought and the patient was started on 300mg of Aspirin, 300mg of clopidogrel and 1mg/kg of Clexane. He was kept in for observation and his 12h troponin level was raised at 0.31 (range <0.04).

Major complications associated with the sub-Tenon's injection include brain stem anaesthesia, globe penetration, orbital haemorrhage, retinal ischaemia and optic nerve damage amongst others. These are however mostly due to poor and incorrect technique [5]. Cardiovascular events are potentially life threatening and can occur during anaesthesia or cataract surgery. In a prospective study of 6 000 sub-Tenon's blocks, 5 patients were successfully treated for cardiovascular events that occurred concomitantly with the injection or shortly after the onset of the sub-Tenon's block. These comprised one episode each of atrial fibrillation, ventricular ectopics, bradycardia, left ventricular failure and angina [4]. A case of death associated with sub-Tenon's anaesthesia was reported by Eke and Thomson[6], whereby the patient had a cardiac arrest 2min following the injection of local anaesthesia. The patient's past medical history included aortic stenosis, previous thrombosis, respiratory failure and obesity.

Atrial fibrillation is the most common cardiac arrhythmia and is frequently seen in elderly patients with its prevalence increasing with age [7]. Most reports of atrial fibrillation associated with local anaesthesia are cases of dental extractions [8,9]. In this case, the new onset of atrial fibrillation was most likely due to the sub-Tenon's anaesthesia and not the surgical stress as the patient was pain free, relaxed and stress free during the operation.

Nowadays, cataract surgery under local anaesthesia is mostly performed by ophthalmic surgeons without the presence of an anaesthetist [10]. However it would be advisable to have an anaesthetist available for patients with significant comorbidities in order to manage any potential systemic complications.

In summary, watchful intra-operative monitoring and immediate anaesthetic backup are necessary, particularly in

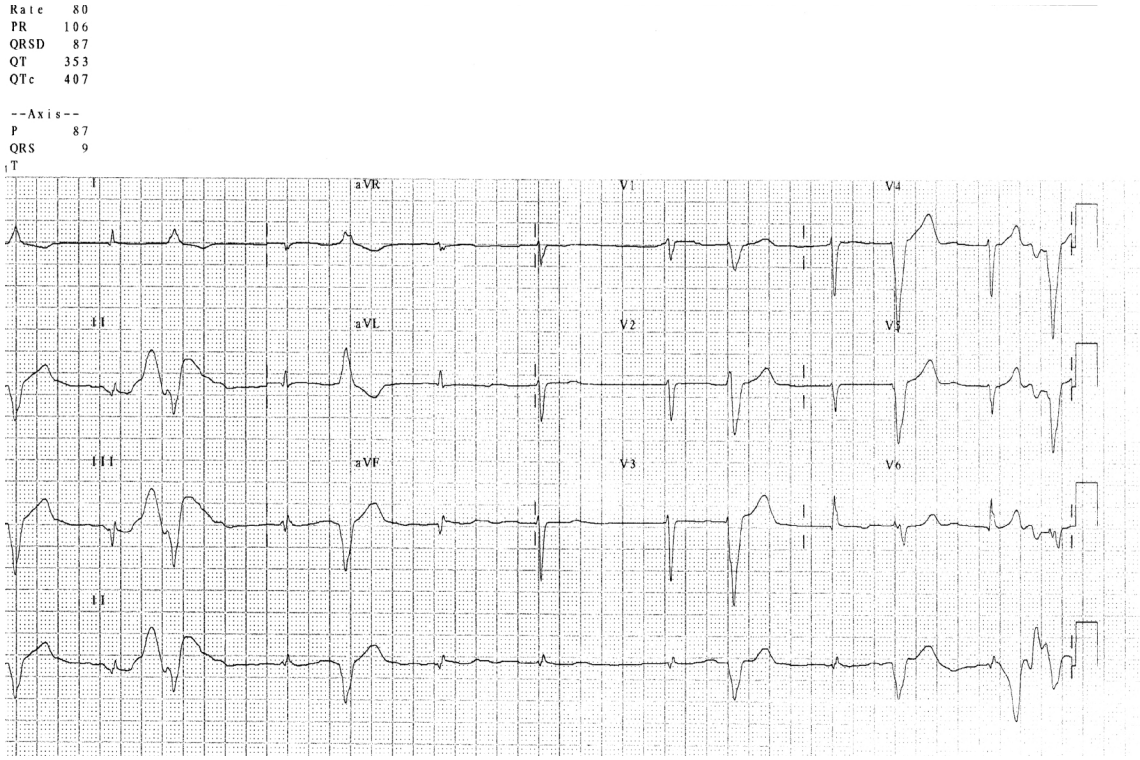

Figure 1 Electrocardiogram showing atrial fibrillation.

patients with a past medical history of cardiovascular events, in order to identify such adverse events and administer appropriate therapy promptly.

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