

## An Unusual Bullous Subconjunctival Haemorrhage from Blunt Trauma

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### 1. Keywords

Geriatric, Trauma, Subconjunctival haemorrhage, Anticoagulation

### 2. Clinical Image

We present an 88-year-old Chinese gentleman who hit his right eye against a tap. He was washing his face when his knees buckled. Medical conditions include warfarin for atrial fibrillation and ischaemic cardiomyopathy. He presented to the emergency department with persistent copious bleeding from his right eye. CT brain showed pre-septal right orbital haematoma with lateral displacement of an intact globe. International normalised ratio (INR) was supratherapeutic, 5.04. Platelets were  $171 \times 10^9$  g/L. Warfarin was stopped and bleeding was conservatively managed.

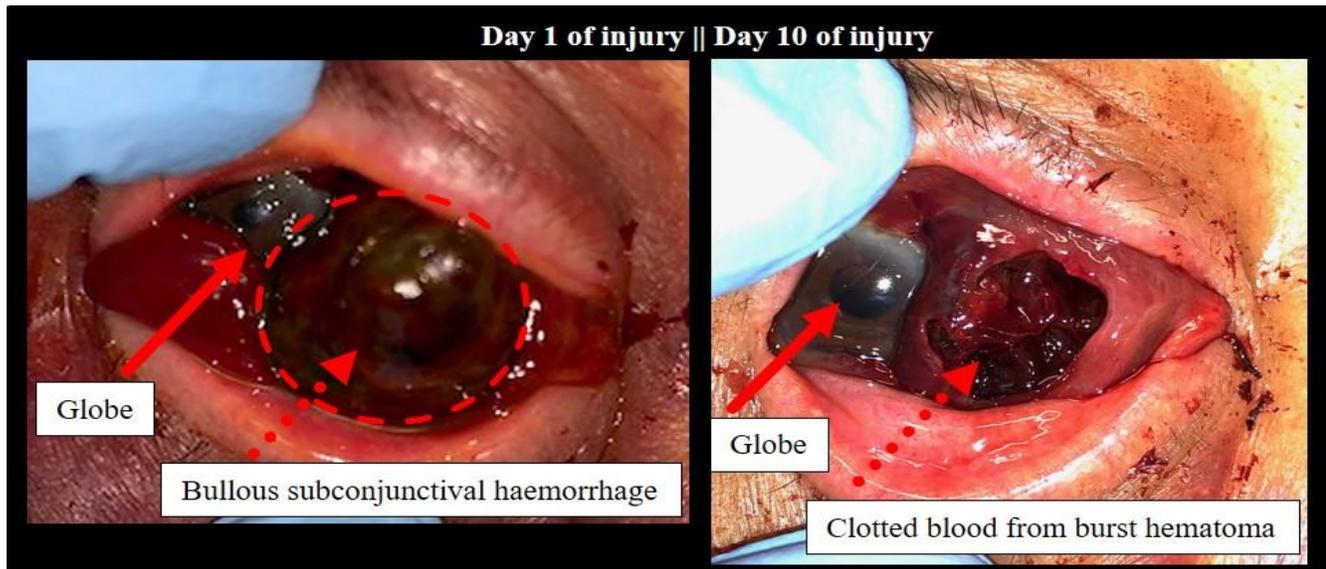
The patient had known bilateral aphakia. On examination, his pupils were round with brisk constriction to light, and visual acuity was at baseline. Colour vision was full on Ishihara testing, and intra-ocular pressure was normal at 15mm Hg. The globe was intact, and this was verified separately through CT scan and ocular ultrasound. The subconjunctival bulla was managed conservatively with regular lubricants and cold compress. Ten days post-injury, the nasal bullous subconjunctival haemorrhage burst spontaneously, exposing the underlying clotted blood with no active ooze.

Unusual in this patient is the large bullous subconjunctival haemorrhage caused by blunt trauma, likely contributed by his supratherapeutic INR. Given the bullous nature of the subconjunctival haematoma, it was important to ensure an occult globe rupture was not missed, and this was achieved through dilated fundal examination by an ophthalmologist, an ocular ultrasound and CT imaging.

This case highlights the need for heightened vigilance in older adults on warfarin. Warfarin has merits which are preserved in older adults [1]. Older adults stand to benefit the most from the stroke risk reduction [2], and there have been calls to promote stroke prophylaxis in them. Often, absolute risk reduction of stroke is greater than risk of extracranial haemorrhage [3]. For our gentleman, CHAD-VaSc score is 6 (9.8% stroke rate/year) and HASBLED score 3 (3.74% bleeding rate/year). However, this quantification of risk is not directly translatable to clinical practice. We need to be mindful that older adults also suffer from the most bleeding risk [4]. Our case urges the clinician to consider risks beyond intracranial and gastrointestinal bleeds to other hazards in daily life. This gentleman needed moderate assistance in daily living due to lower limb weakness from compression fractures, ischaemic cardiomyopathy and poor visual acuity. He is at high risk of injuries beyond falls with consequent devastating bleeds, and this has to be counselled prior to anticoagulation initiation. A consideration is lowering INR target to 1.6-2.6 [5]. Patient preference should strongly feature in the decision making. Constant review of the appropriateness and tailoring of anticoagulation for the older adult is key. It is important that typical clinical practice guidelines are not applied to older adults wholesale as organ-specific guidelines may prove to be detrimental [6].

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