Can thou lyse this?

A national study of emergency canthotomy and cantholysis

BY JONATHAN ROOS

Eighty-two-year old Janet Smith woke up on the floor. Had she been unconscious? Her head hurt. It was the middle of the night, but in the darkness she suddenly wasn't sure whether she could see out of her right eye. She tried to get up and look in the mirror. Her face was bruised, there was a gash across her forehead and her lid was swollen tightly shut.

She arrived in A&E and was asked about her anticoagulant use. The International Normalised Ratio (INR) was 4.4. She explained about her two mechanical heart valves. She was seen by a young-ish doctor who asked her to look here and there, then pressed on her sore eye and then kept shining a very bright light in each – back and forth, back and forth. Another hour passed, or was it two? Was she waiting for a scan? Then another doctor came and told her that she might need surgery and that without it she might never see with her right eye again. She wondered about the risks and what might be the expected outcome. How common was this procedure? How many had the doctor done before? She didn't ask but agreed to the procedure. Soon she felt a pricking sensation, and then some dull tugging. All right there in the A&E. It was over in a few minutes and then the doctor left. Mrs Smith was admitted onto a ward – the surgeon returned and continued to swing his flashlight backwards and forwards between her eyes. What would happen next? She finally asked: 'Doctor, will I get my sight back? What usually happens in this situation?'

Acute orbital compartment syndrome is a potentially reversible cause of vision loss. It requires urgent orbital decompression by lateral canthotomy and cantholysis in order to restore or preserve vision and is therefore a true ophthalmic emergency [1]. But we do not know how many are performed per year in the UK, or anywhere else for that matter. And we do not know who performs these, nor to whom, under what circumstances they occur most frequently nor what the outcome is thereafter. Had Mrs Smith, or her family, asked these questions before the procedure, would the ophthalmologist have struggled to answer?

A year ago Stephen Stewart – Ophthalmology ST1 in Northern Ireland – and I submitted near identical study proposals to answer these questions to the British Ophthalmic Surveillance Unit (BOSU), an organisation neither of us knew much about. BOSU is a Royal College of Ophthalmologists unit headed by Professor Miles Stanford and Barny Foot. It administers a nationwide surveillance scheme to allow epidemiological study of rare eye conditions. Each month, non-trainee ophthalmologists throughout the UK are sent a yellow card with seven study conditions [2]. Respondents who have seen a patient with one of the seven cases under study will tick the appropriate box and then be sent a (short!) study questionnaire. BOSU has an incredible track record of having a high response rate for surveys – frequently above 70% and even higher for the survey questionnaires sent thereafter (often around 95%) and relies on the support of UK ophthalmologists to achieve this. It is an excellent means by which to prospectively identify cases for epidemiological study of rare conditions [2].

Over the course of this year we will be working together, running studies aimed at determining the incidence, aetiology, assessment and visual outcome in patients who underwent emergency lateral canthotomy / cantholysis for acute orbital compartment syndrome in the UK. It will be the first national epidemiological study of this urgent procedure in any country and so will hopefully make a significant contribution to the understanding of this rare ophthalmic emergency.

In addition to the formal BOSU study, we also plan to send out electronic questionnaires to UK registrars to enquire about any experience they may have of this emergency and the details of any training received. Likewise, we will also be approaching the British Oculoplastic Surgical Society to see if their members' experiences mimic the eventual results of the national survey.

Supervised by Sri Kamalarajah, Consultant Ophthalmologist, Royal Victoria Hospital Belfast and Daniel Ezra, Consultant Oculoplastic and Adnexal Surgeon at Moorfields in London, our small team has gratefully received funds towards this study from the Cambridge Eye Trust, the Queen's Medical Centre, Belfast and the Collin Scholarship of the British Oculoplastic Surgical Society.

Please watch this space – whether registrar, associate or consultant ophthalmologist – a survey will likely soon be coming your way. The more support from the UK ophthalmic community we receive, the better will be the data which we can then feed back to you, and in turn help you to better counsel and care for the next Janet Smith.

References

1. Lima V, Burt B, Leibovitch I, et al. Orbital compartment syndrome: the ophthalmic surgical emergency. *Surv Ophthalmol* 2009;**54(4)**:441-9.
2. Foot B, Stanford M, Rahi J, Thompson J; British Ophthalmological Surveillance Unit Steering Committee. The British Ophthalmological Surveillance Unit: an evaluation of the first 3 years. *Eye (Lond)* 2003;**17(1)**:9-15.

Jonathan Roos,
Chief Resident, Ophthalmology, Norfolk & Norwich University Hospital;
& Aspiring Orbital and Oculoplastic Surgeon.

E: drjonathanroos@gmail.com

Declaration of Competing Interests
None declared.