A Retrospective Analysis of Commotio Retinae presentations to Birmingham & Midlands Eye Centre: findings, outcomes, management and follow up

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Background
Commotio Retinae is a traumatic retinopathy. Most cases resolve within four weeks of injury although they may improve over six months, up to 26% of macula-involving commotio can have permanent macular damage [1]. There is no treatment, but patients are frequently followed up to monitor for complications.

Aims - to determine:

- the burden of booked follow-up clinic appointments for patients presenting with Commotio Retinae
- the proportion of non-attendance
- whether these clinic appointments lead to any actionable change
- the rate and types of complications developed within this cohort
- if those who had complications self-present earlier than planned

Methods

- Retrospective non-interventional analysis of patients who presented to Birmingham Midlands Eye Centre with a diagnosis of Commotio Retinae on Medisight from 3/6/2022 to 4/4/2024 was performed, 58 patients were identified.
- 5 patients presenting with significant co-pathology were not included in this analysis.
  - 2x traumatic macula holes
  - 2x retinal tears
  - 1x significant hyphaema and angle recession

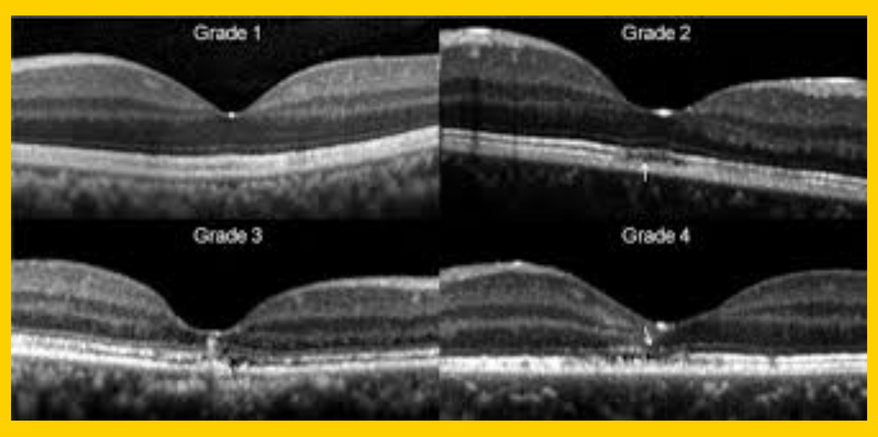


Image 1[2]: OCT shows increased reflectivity and thickness of ellipsoid zone with disruption of interdigitation zone

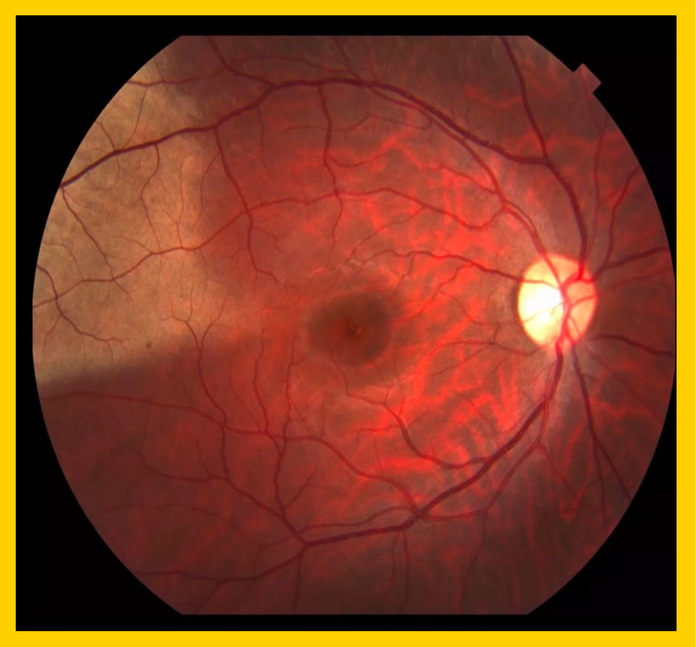
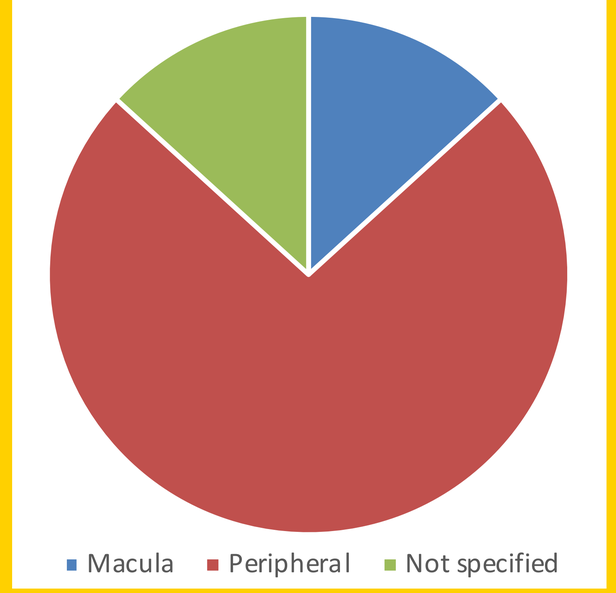


Image 2 [1]: Right eye colour photograph showing clinical examination findings: glistening gray-white opacification of the neurosensory retina



UP - Figure 1: Pie chart showing location of commotio retinae noted during examination, 13% involved the macula

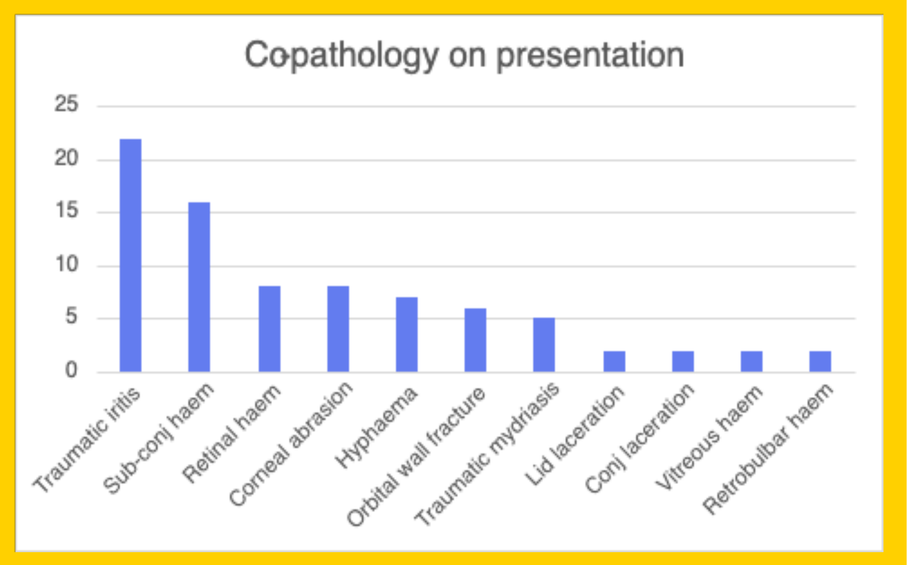
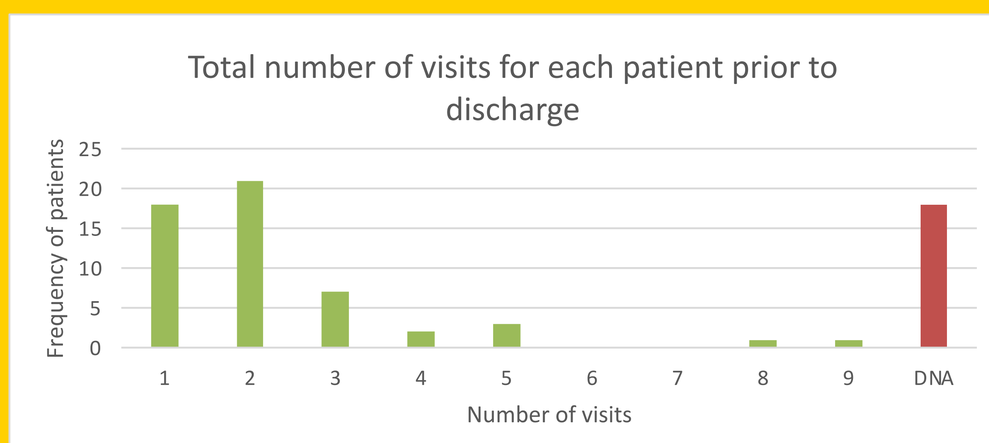


Figure 2: Bar chart showing co-pathology present alongside commotio retinae, 13 patients had commotio as the only significant pathology



LEFT - Figure 3: Bar chart showing the frequency for the total number of visits each patient had prior to discharge, 18 patients had one visit and 21 had two visits

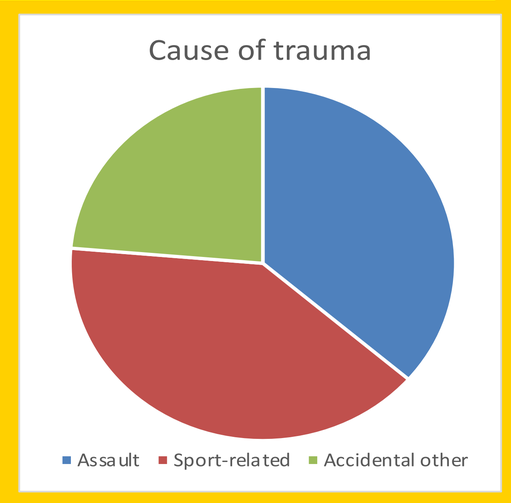


Figure 4: Pie chart for the cause of trauma, most common were punch at 13 and football at 12

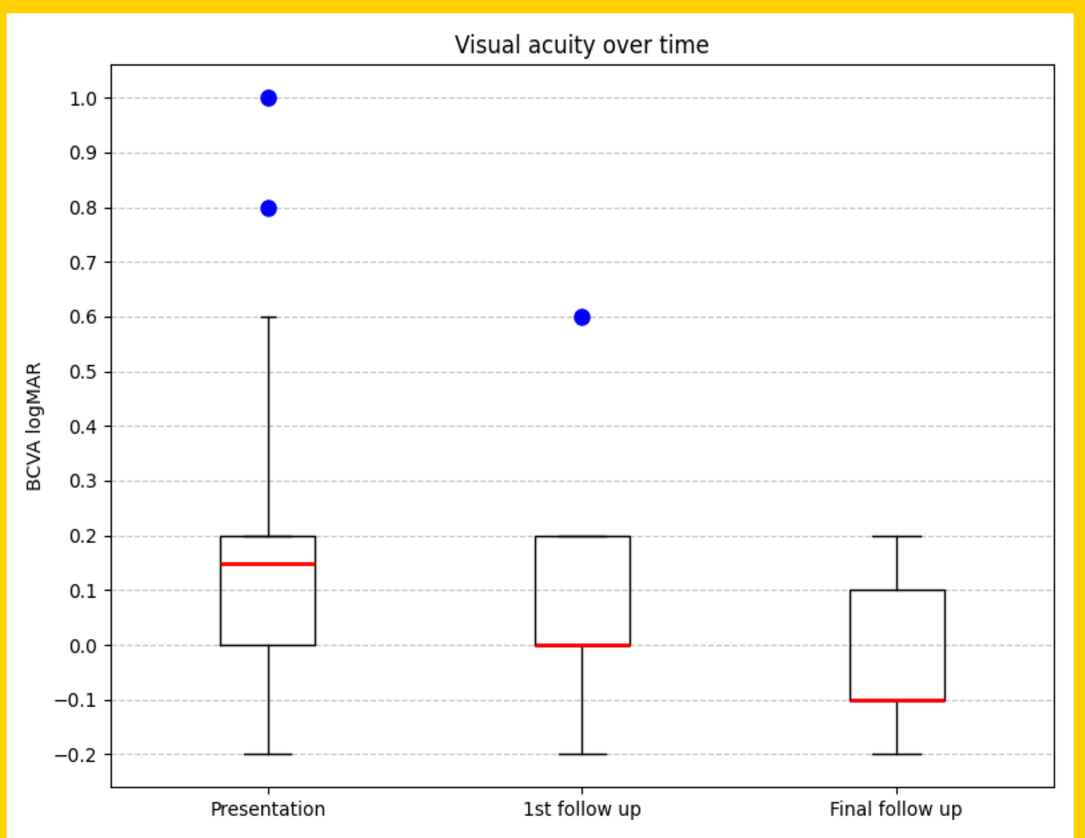


Figure 5: Box and Whisker plot showing BCVA of the affected eye at presentation, their 1st follow up and at their final point of follow up with median BCVA shown as a red line and outliers as blue circles

Results

- 53 patients total - 24 patients had their right eye affected and 43 patients were male.
- Median days between injury and presentation was 1 (range 0 – 6).
- 121 appointments were booked for these 53 patients in total across urgent care clinics and subspeciality clinics.
- 43 patients received no intervention in their follow up appointments.
- 18 patients DNA'd their appointments.
- 3 patients self-presented prior to their planned follow up, no new pathology was identified on examination for any of them.
- There were three complications. None of these self-presented prior to their planned follow up.
  - Missed retinal tear and vitreous haemorrhage
  - Choroidal atrophy
  - Angle recession who developed raised IOP and required glaucoma intervention

Limitations

- Co-pathology on presentation such as traumatic iritis can influence the subsequent management and planned follow up of Commotio Retinae.
- Reliant on doctors correctly coding the diagnosis of Commotio Retinae on Medisight.

Conclusion

Patients presenting to EED with Commotio Retinae had good final visual outcomes with high DNA rates for follow up appointments, low complication rates and low intervention rates in clinic. This suggests that we may be following up too many of these patients and some could be safely discharged on presentation from a retinal perspective.

Image 1: 2019 – 2025, Eye Specialist Centre, Case 12, https://www.eyespecialistscentre.com.au/blog/?post=case-12
Image 2: Ahn SJ et al. Optical coherence tomography morphologic grading of macular commotio retinae and its association with anatomic and visual outcomes. *Am J Ophthalmol*. 2013;156(5):994-1001.e1.
Reference 1: BLANCH, R.J., *UNDERSTANDING AND PREVENTING VISUAL LOSS IN COMMOTIO RETINAE*, in *College of Medical and Dental Sciences*. 2014, University of Birmingham: Birmingham, UK. p. 581.