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James Paget University Hospitals NHS Foundation Trust

Management of Traumatic Hyphaema Trust Guideline

A Clinical Guideline recommended for use

In:	Ophthalmology
By*:*	Ophthalmologists and Ophthalmic Specialist Nurses
For:	Patients with Traumatic Hyphaema
Key words:	Traumatic, Hyphaema
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Assessed and approved by the	Divisional Manager / Department Head
Reported as approved to	
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Version Information

Version No	Updated By	Updated On	Description of Changes
V4	Mr D Pharoah	February 2023	Reviewed with no changes.
V3	Mr D Pharoah	April 2020	Reviewed with no changes.
V2	Mr D Pharoah	June 2017	Reviewed and transferred into the new trust format.
V1	Tasneem Khatib	Feb 2014	To originate document

1. Objective

To provide guidelines for ophthalmologists to safely and effectively manage patients with traumatic hypaema.

2. Rationale

The document was written to provide guidelines for the management of traumatic hyphaema. The reference section shows the appropriate evidence base for this guideline.

3. Broad recommendations

Introduction:

The presence of a hyphaema following trauma indicates that the eye has suffered a significant injury and can be associated with long-term sight threatening sequelae. Appropriate management is essential to ensure that that these risks are reduced. This guide is applicable to ophthalmologists involved in the care of patients with traumatic hyphaema.

Assessment: History.

Include documentation of:

- Mechanism of injury
- Time of injury
- Time and extent of visual loss
- Past medical history or family history of sickle cell trait/disease or coagulopathy
- Drug history including use of anticoagulants

Assessment: Ocular examination

Include documentation of:

- Exclusion of ruptured globe
- Evaluation of other traumatic injuries including dilated fundal examination
- Extent and location of clot and blood. Measure the hyphaema height.
- IOP
- Avoid gonioscopy unless intractable raised IOP develops
- Examine other eye for presence of juvenile xanthogranulomas

Investigations:

- B-scan ultrasound (gently) if view of fundus is poor
- CT scan brain and orbits (axial and coronal views with 1mm sections through orbits) if indicated (suspected orbital fracture, IOFB or loss of consciousness)
- Screening for sickle cell disease or trait if clinically appropriate

Treatment:

- Place a clear plastic shield over the injured eye (avoid patching)
- Cycloplegia: g Atropine 1% twice a day to the affected eye
- Topical steroids: g Maxidex (4-6 x a day). Taper frequency as soon as signs and symptoms resolve.

- Treatment of IOP: start with a beta blocker unless contraindicated. Prostaglandin analogues may promote inflammation and alpha agonists may affect iris vasculature. Avoid the use of carbonic anhydrase inhibitors in patients with sickle cell disease or trait (reduction of aqueous pH can induce sickling).
- There is no convincing evidence of benefit of:
    - binocular patching over monocular patching
    - bed rest over moderate activity
    - elevation of the head in a semi-reclined position

- Consider surgical hyphaema evacuation:
    - IOP > 60 mmHg for 2 days
    - In patients with sickle cell disease or trait (repeated IOP spikes over 30 mmHg in 24 hours)
    - IOP > 25 mmHg for 5 days with a total hyphaema (to prevent corneal blood staining)
    - Corneal blood staining present
    - Hyphaema fails to resolve to less than 50% of anterior chamber volume by 8 days (to prevent PAS formation).
- Consider admitting children:
    - Hyphaema greater than 50% of anterior chamber volume
    - Raised IOP
    - Sickle cell disease/trait or a clotting diathesis
    - Concern regarding:
        - medication delivery
        - compliance with activity restrictions
        - ability to return for follow-up
        - suspected child abuse

Follow up:

- Review daily, rebleeding is most likely to occur in the first 5-10 days.
- Patient must refrain from strenuous physical activity for 1 week after initial injury
- Increase interval between visits as clinical picture improves
- Review at 4 weeks after initial trauma for gonioscopy and dilated fundal examination with scleral depression
- Annual optician review for IOP check as increased risk of angle recession glaucoma.

4. Staff Training /Qualifications

This guide is intended for ophthalmologists.

5. Clinical audit standards

To ensure that this document is compliant with the above standards, the following monitoring processes will be undertaken:

I would suggest a retrospective audit of this guideline every few years. These cases are rare and frequent audit would be impractical.

The audit results will be presented at the departmental governance meeting to review the results and make recommendations for further action.

6. Summary of development and consultation process undertaken before registration and dissemination

The authors listed above drafted this document on behalf of the eye department. During its development it has been circulated for comment to Mr Butler, and Mr Goldsmith who had no additions as the guideline had previously been agreed and no changes were necessary.

This version has been endorsed by the eye department.

7. Distribution list/ dissemination method

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

8. References

Gerstenblith, AT and Rabinowitz MP eds., 2012. The Wills Eye Manual. Office and Emergency Room Diagnosis and Treatment of Eye Disease. 6th Edition. Philadelphia: Lippincott Williams & Wilkins.

Gharaibeh A, Savage HI, Scherer RW, Goldberg MF, Lindsley K. Medical interventions for traumatic hyphema. *Cochrane Database of Systematic Reviews* 2013, Issue 12. Art. No.: CD005431. DOI: 10.1002/14651858.CD005431.pub3.

Walton W, Von Hagen S, Grigorian R, Zarbin M. Management of Traumatic Hyphema. *Surv Ophthalmol* 47:297-334, 2002.

9. Monitoring Compliance / Effectiveness Table

Appendix 1

Document Name: Management of Traumatic Hyphaema
Document Owner: Mr D Pharoah

Element to be monitored	*Lead Responsible for monitoring*	*Monitoring Tool / Method of monitoring*	*Frequency of monitoring*	*Lead Responsible for developing action plan and acting on recommendations*	*Reporting arrangements*	*Sharing and disseminating lessons learned & recommended changes in practice as a result of monitoring compliance with this document*
Not Applicable (See Clinical Audit Standards)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable