

## **Traumatic Vitreous Hemorrhage Following Cow Horn Injury: A Case Report**

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**ABSTRACT:** Background: Traumatic vitreous haemorrhage is a vision-threatening complication that may arise following blunt or penetrating ocular injury. Early diagnosis and appropriate management are crucial in preventing permanent visual impairment. This report presents a case of vitreous haemorrhage associated with blunt trauma by a cow horn, highlighting the clinical features, investigations, and initial management. Case Presentation: A 51-year-old female presented with redness, pain, swelling, and sudden loss of vision in the right eye after a cow horn injury. Examination revealed conjunctival chemosis, subconjunctival haemorrhage, Descemet's folds, vitreous haemorrhage, and associated choroidal detachment, with visual acuity reduced to counting fingers. Management: The patient was treated with Homide eye drops twice daily and Prednisolone eye drops three times daily, and advised close follow-up to monitor for delayed retinal complications. Conclusion: Early diagnosis, careful retinal evaluation, and timely management are essential in traumatic vitreous haemorrhage to prevent permanent visual impairment, with ultrasonography playing a key role when media opacity limits fundus view.

**Keywords:** *Traumatic vitreous haemorrhage, Choroidal detachment, Cow horn injury, Blunt ocular trauma*

## **Introduction**

Vitreous haemorrhage refers to the presence of blood within the vitreous cavity and may result from diverse ocular or systemic conditions <sup>(1)</sup>. Its timely diagnosis and appropriate management are essential to minimize vision loss and associated complications. Anatomically, vitreous haemorrhage may occur in the preretinal space, such as subhyaloid or sub-internal limiting membrane (sub-ILM) haemorrhages or within the vitreous gel <sup>(2)</sup>. Subhyaloid haemorrhage, typically boat-shaped and immobile, often occurs in proliferative diabetic retinopathy, whereas sub-ILM haemorrhage, which does not shift with posture, is more commonly associated with Terson syndrome, retinal arterial macroaneurysm (RAM), and Valsalva retinopathy. In intravitreal haemorrhage, the blood disperses within the gel and may settle inferiorly with time.

Vitreous hemorrhage may occur due to retinal vascular disorders, neovascular processes, posterior vitreous detachment (PVD), trauma, intracranial bleeding, malignancies, blood dyscrasias, or surgical complications <sup>(3)</sup>. Traumatic instances may encompass blunt, penetrating, or perforating lesions, occasionally linked to a retained intraocular foreign body. The treatment depends on what caused the problem. It could be cautious observation, laser photocoagulation, cryotherapy, posterior hyaloidotomy, intravitreal anti-VEGF therapy, or pars plana vitrectomy <sup>(4)</sup>.

## **Case presentation**

A 51-year-old female presented to the emergency department with complaints of redness, swelling, pain, and sudden loss of vision in the right eye following blunt trauma from a cow horn two days earlier. She reported no significant past ocular history, medical conditions, allergies, or relevant family history. On examination, unaided visual acuity in the right eye was counting fingers close to the face, while the left eye measured 6/6. Near vision was not seen in the right eye, and was N24 at 40 cm in the left eye. Refraction showed a BCVA of Close Fingers Counting (CFC) in the right eye and 6/6 in the left eye, with an additional +2.50D for near. Ocular

motility was full in both eyes, and the cover test demonstrated orthophoria. External examination revealed normal facial symmetry and proper ocular alignment.

Slit-lamp examination of the right eye showed conjunctival chemosis with subconjunctival haemorrhage, Descemet's membrane folds, a quiet anterior chamber, a clear lens, and a reactive round pupil. The left eye was normal. Intraocular pressure measurement could not be obtained in the right eye, while the left eye recorded 13 mmHg. Fundus examination of the right eye, though limited due to hazy media, revealed a healthy optic disc, attached retina, and superotemporal quadrant retinal incarceration. The left fundus appeared normal. Based on these findings, a diagnosis of traumatic vitreous haemorrhage with associated choroidal detachment in the right eye was made.

The patient was prescribed Homide eye drops twice daily for 3 days and Prednisolone acetate eye drops three times daily for one week, with advice to return for follow-up after 3 days. Traumatic vitreous haemorrhage occurs due to disruption of ocular blood vessels following blunt impact and may be associated with retinal tears or choroidal involvement. Early fundus examination is essential, as visualization may worsen later with blood dispersion. If the view becomes obscured, B-scan ultrasonography becomes critical to rule out retinal detachment or occult globe rupture. In this case, initial assessment did not reveal retinal detachment; however, close follow-up was emphasized due to the possibility of delayed complications. Prompt diagnosis and early intervention are crucial to preserve visual function and reduce long-term morbidity.

### **Medical History**

The patient had no known systemic medical conditions such as diabetes, hypertension, cardiovascular disease, or bleeding disorders.

### **Family History**

There was no family history of ocular diseases, trauma, hereditary retinal conditions, or systemic illnesses associated with ocular manifestations.

## Allergy History

The patient reported no known drug allergies and denied any allergic reactions to medications, food, or environmental agents.

## Ocular Examination

### Visual Acuity

| Test    | OD              | OS         |
|---------|-----------------|------------|
| Unaided | CFC             | 6/6        |
| Pinhole | NI              | —          |
| Near    | Not seen @40 cm | N24 @40 cm |

## Refraction

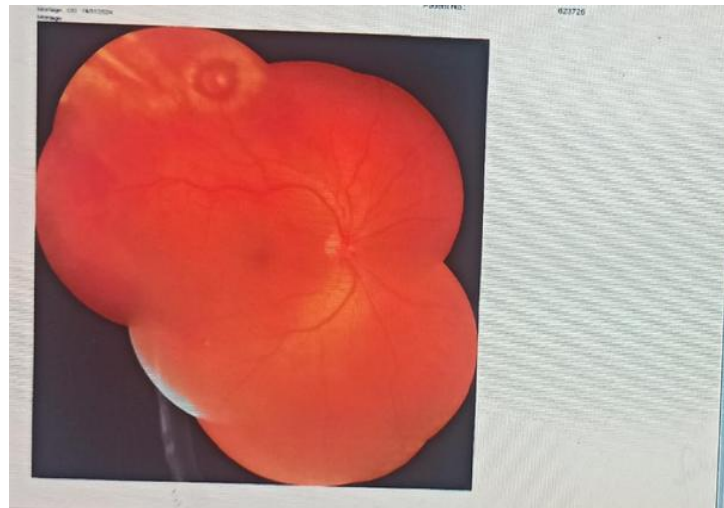
| Eye | Distance BCVA | Add   | Near     |
|-----|---------------|-------|----------|
| OD  | +0.00 → CFC   | +2.50 | Not seen |
| OS  | +0.00 → 6/6   | +2.50 | N6       |

## Slit Lamp Examination

| Structure        | OD                         | OS      |
|------------------|----------------------------|---------|
| Eyelids/Adnexa   | —                          | —       |
| Conjunctiva      | Chemosis, SCH              | Normal  |
| Cornea           | DM folds                   | Clear   |
| Anterior chamber | Quiet                      | Normal  |
| Lens             | Clear                      | Clear   |
| Iris             | Normal                     | Normal  |
| Pupil            | RRR                        | RRR     |
| Vitreous         | <i>Hazy view due to VH</i> | Normal  |
| IOP (NCT)        | Not recorded               | 13 mmHg |

## Fundus Examination

| Eye | Findings  |
|-----|---|
| OD  | Disc normal, FR present, retina attached, superotemporal quadrant (STQ) retinal incarceration |
| OS  | Disc and retina normal, FR present  |



**Figure 1:** Montage Fundus Photograph of the Right Eye Showing Vitreous Hemorrhage with Supertemporal Retinal Incarceration.

Sources Images Capture Realme 8s 5G

## Discussion

This patient presented with acute visual loss following blunt ocular trauma from a cow horn. The presence of conjunctival chemosis, subconjunctival hemorrhage, vitreous hemorrhage, and choroidal detachment correspond with high-impact trauma.

In traumatic cases, VH may be associated with

- Retinal tears
- Retinal incarceration
- Choroidal detachment
- Occult globe rupture

The initial fundus view is often best immediately after injury because blood later diffuses through the vitreous. If media opacity limits visualization, B-scan ultrasonography becomes critical for detecting retinal breaks or detachment. In this case, the retina was partially visible, and no retinal detachment was detected on initial evaluation. The patient was advised to follow-up due to the risk of delayed retinal breaks.

## **Conclusion**

Vitreous haemorrhage secondary to blunt trauma requires urgent evaluation to rule out retinal or choroidal complications. Early diagnosis and management are crucial in preventing permanent visual sequelae. When fundus examination is limited, ultrasonography should be used to assess retinal integrity. Continuous monitoring is crucial, as delayed complications may occur following traumatic injuries.

## **Reference**

1. Dana MR, Werner MS, Viana MA, Shapiro MJ. Spontaneous and traumatic vitreous hemorrhage. *Ophthalmology*. 1993 Sep 1;100(9):1377-83.
2. Conart JB, Berrod JP. Non-traumatic vitreous hemorrhage. *Journal Francais D'ophtalmologie*. 2016 Jan 27;39(2):219-25.
3. Chen HJ, Feng K, Feng XF, Wang CG, Ma ZZ. Traumatic choroidal injuries—classification, incidence, diagnosis and prognosis twenty-year results of Eye Injury Vitrectomy Study. *Acta Ophthalmologica*. 2021 May;99(3):e387-93.
4. Çkiç O, Totan Y, Batman C. Traumatic vitreous hemorrhage from a persistent hyaloid artery. *Journal of Pediatric Ophthalmology & Strabismus*. 2000 Mar 1;37(2):117-8.