

ACUTE ONSET VISION LOSS IN A HEALTHY DIVISION 1 SOCCER PLAYER

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HPI

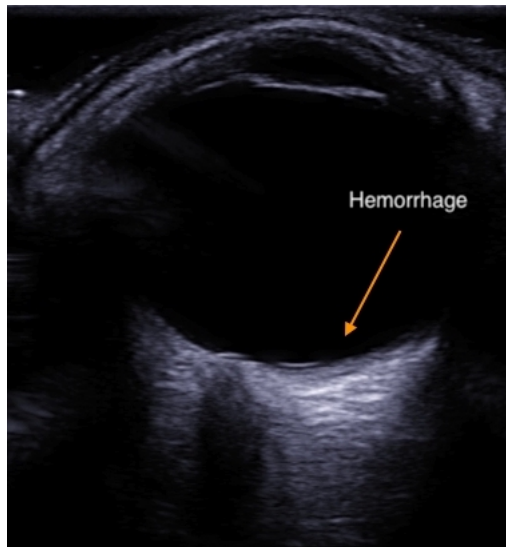
- 19 year old female with no significant past medical history sustained blunt force trauma to her LEFT eye from a high speed kicked soccer ball
- CC: “Vision seems off”
- She denied a headache, loss of consciousness, vomiting, visual floaters, or vertigo
- Physical Exam: Well appearing female, not in significant distress
 - Normocephalic, atraumatic, no epistaxis, normal gait
- Eye Exam: Left unilateral nasal inferior quadrantanopia/scotoma
 - Extra ocular movement intact without pain, PERRL without pain, no nystagmus, no headache or nausea with rapid saccade

Initial Differential Diagnosis

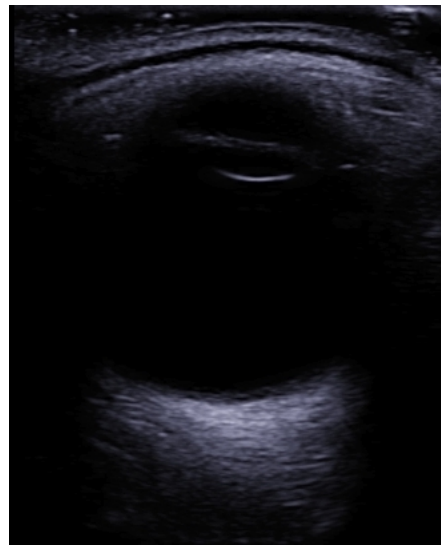
- Central Retinal Vein/Artery Occlusion
- Traumatic Optic Neuropathy
- Retinal Detachment
- Retinal Hemorrhage
- Vitreous Hemorrhage

Results

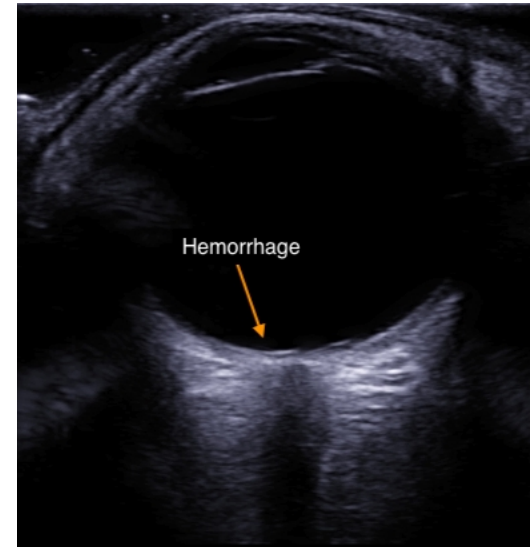
- Point of care ultrasound showed a non-oscillating hyperechoic line on the retina. No retinal detachment or vitreous hemorrhage identified. Optic nerve width was normal.



Abnormal hyperechoic line



Normal retina for comparison



Abnormal hyperechoic line

Results and Management

- An full ophthalmoscopic exam was performed by the ophthalmologist and the patient was diagnosed with a retinal hemorrhage without detachment.
- The patient was managed conservatively and the area of hemorrhage spontaneously reabsorbed.
- She had no residual visual deficits and was able to return to full play.

Discussion

- **Diagnosis:** Traumatic Retinal Hemorrhage
- Retinal hemorrhage refers to bleeding into one of the layers of the retina. This can occur from disease or trauma. It can be asymptomatic or cause temporary and even permanent visual changes. Diagnosis often relies on an ophthalmologist to perform fluorescein angiography. Management is often conservative as most retinal hemorrhages reabsorb. Point of care ultrasound is an emerging diagnostic tool commonly used by emergency physicians. In the case of ocular pathology, it has so far been used to diagnose globe perforation, retrobulbar hematomas, retinal detachments, lens subluxation/dislocation, vitreous hemorrhage, hyphema, and intraocular foreign bodies.

Authors Comments

- To our knowledge this is the first case of ultrasound diagnosed and confirmed retinal hemorrhage. Ultrasound has already proven to be highly useful in diagnosing vitreous hemorrhage and retinal detachments. Our patient had a visual defect concerning for retinal pathology. Identifying or potentially ruling out causes of vision deficits following an injury shows the increasing utility of ultrasound in both the emergency room and on the sideline for sports medicine. While this should not be used in place of an ophthalmologist when a patient presents with vision loss, it does add another diagnosis the EM physician can identify.

References

- Ojaghihaghighi, S., Lombardi, K. M., Davis, S., Vahdati, S. S., Sorkhabi, R., & Pourmand, A. (2019). Diagnosis of Traumatic Eye Injuries With Point-of-Care Ocular Ultrasonography in the Emergency Department. *Annals of emergency medicine*, 74(3), 365–371. <https://doi.org/10.1016/j.annemergmed.2019.02.001>

Thank You