



Visual Case Discussion

Rapid diagnosis of acute retinal detachment with emergency department point of care ultrasound (POCUS)

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A 37-year-old Latino male with no past medical history presented with a 3-day history of central vision loss in the right eye, described as looking “like a pool of oil.” As per the patient, there was no trauma, no foreign bodies, no other associated symptoms, and no surgical history. On exam, the right pupil was sluggish with visual acuity of 20/20 OS and only hand-motion OD. Prior to fundoscopic exam, a POCUS exam revealed a right-sided retinal detachment involving the macula. An ophthalmology consultant confirmed retinal detachment but given that this was a macula off injury and the duration of symptoms, the patient was not a candidate for emergent repair. He was seen in outpatient retinal clinical to discuss elective repair, but subsequently lost to follow-up (Figs. 1 and 2).

Questions

- 1 Which of the following is a common risk factor for retinal detachment?
 - a cocaine use
 - b high altitude
 - c diabetic retinopathy
 - d anticoagulant use

- 2 In which of the following situations might ocular ultrasound be the best diagnostic test for retinal detachment?
 - a Optometry office
 - b Emergency department
 - c Primary care office
 - d Prehospital services

Answers

- 1 (C) Diabetic retinopathy. Diabetic retinopathy can cause a type of retinal detachment known as tractional retinal detachment, which is when a mechanical force causes separation of the retina from the retinal pigment epithelium, occurring without a break in the retina.¹
- 2 (B) The emergency department. Fundoscopic exams are also time-consuming, and technically difficult to perform. Additionally, direct fundoscopic exams and visual field examinations do not completely rule out retinal detachment. Bedside ocular ultrasonography may be performed to diagnose retinal detachment with sensitivity ranging from 97 to 100% and specificity from 83–100%.^{2,3}

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Fig. 1. Still ultrasound image of cross-section of left eye, showing a normal eye.

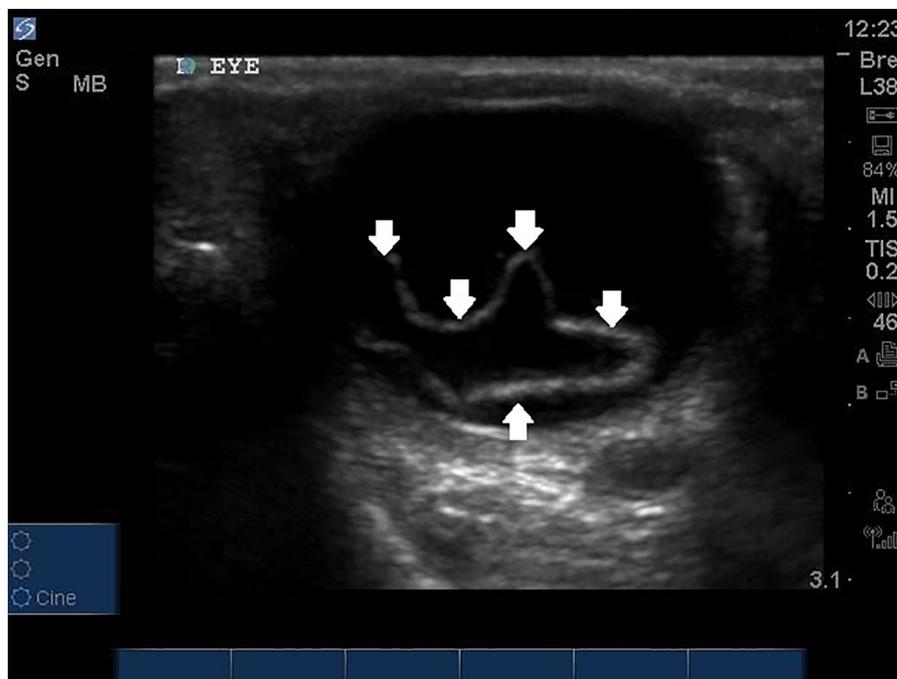


Fig. 2. Still ultrasound image of cross-section of right eye, showing retinal detachment (arrows).

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.visj.2019.100616](https://doi.org/10.1016/j.visj.2019.100616).

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