



# Felis Punctatis Oculis: Cat Claw-Induced Occult Scleral Perforation

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### Case Report

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### Abstract

This is a case report of a 59-year-old woman who experienced minimal trauma, in this case from a house cat which resulted in an open globe. This case shows how an open globe injury can result after minimal trauma and a method for non-invasive treatment. During this case ophthalmic imaging was used to assist in the diagnosis of occult open globe injury. There were many causes of open globe injury found during out search of the literature, but scleral perforation from animal claw was not yet described.

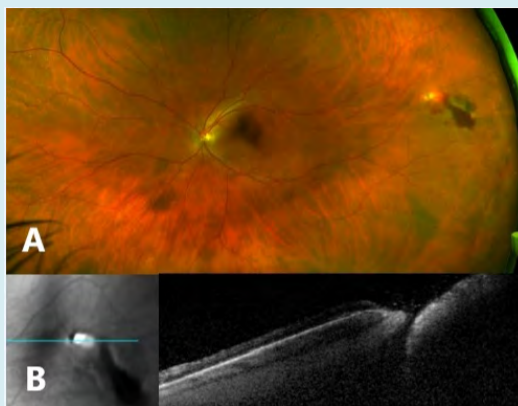
**Keywords:** Retina; Endophthalmitis; Open Globe; Moxifloxacin; Cat Claw

**Abbreviation:** SD-OCT: Spectral-Domain Optical Coherence Tomography.

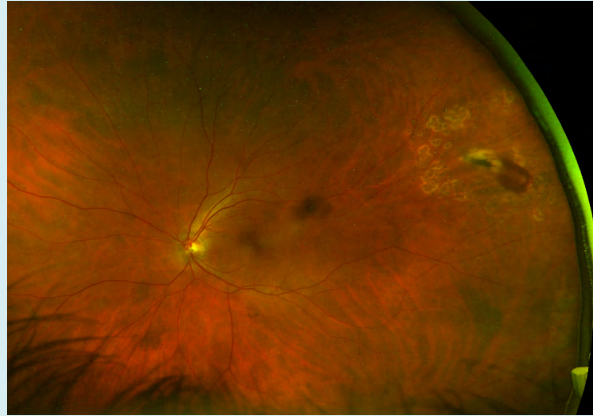
### Case Study

A 59-year-old female presented with left eye pain, conjunctival injection, and floaters five days after her cat pounced on her face. On examination of the left eye, the visual acuity was 20/20, intraocular pressure was 16 mmHg, and

no afferent pupillary defect was detected. A small, temporal sub-conjunctival hemorrhage was observed with no anterior chamber cell or flare. Fundus exam and peripheral spectral-domain optical coherence tomography (SD-OCT) are described on (Figure 1: A & B). The patient underwent laser retinopexy and was treated with oral clindamycin and topical moxifloxacin. At her two-month follow up visit, no signs of infection had been noted and vision remained stable (Figure 2).



**Figure 1:** Multimodal imaging of cat-claw induced occult scleral perforation. A. Color fundus photograph showing temporal intra-retinal and vitreous hemorrhage with a small area of exposed sclera. B. Spectral-domain optical coherence tomography with green raster corresponding to the cross-sectional SD-OCT revealing a full thickness penetration of the sclera and retina.



**Figure 2:** Cat-claw induced occult scleral injury at 2 month follow up post laser retinopexy. Unresolved subretinal hemorrhage and new laser scarring can be seen in the temporal retina.

Open globe injuries commonly occur secondary to trauma. The causative nature of the injury differs between males and females. The most common cause is work related injury in males, and female injury is more likely to be caused by falls [1]. Immediate evaluation of a globe injury is crucial for accurate prognosis. Poor prognosis was found to be associated with the following exam findings: poor visual acuity, prior penetrating keratoplasty, vitreous hemorrhage, retinal detachment, or lens dislocation [1]. Open globe injuries involving intraocular foreign bodies, the most common cause of which was hammering, were associated with additional poor prognostic factors: age greater than 50 and wound length great than 4 mm [2]. Radiographic signs on CT, such as loss of eye contour or volume loss, are good predictors of open globe [3]. However, radiology is inferior to surgical evaluation and not diagnostic alone [3]. The use of intravitreal antibiotics at the time of repair may be helpful in preventing endophthalmitis and, therefore, improve visual outcomes [2]. In one study from an ophthalmic trauma referral centre of 660 eyes, only 8.3% of eyes that presented with open globe injury had to undergo enucleation or evisceration [4]. The most common reason for enucleation was pain, with a rate 0.3% for sympathetic ophthalmia [4].

Open globes, although common, rarely need enucleation and visual outcomes can be improved by prompt surgical evaluation and antibiotics.

### References

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