

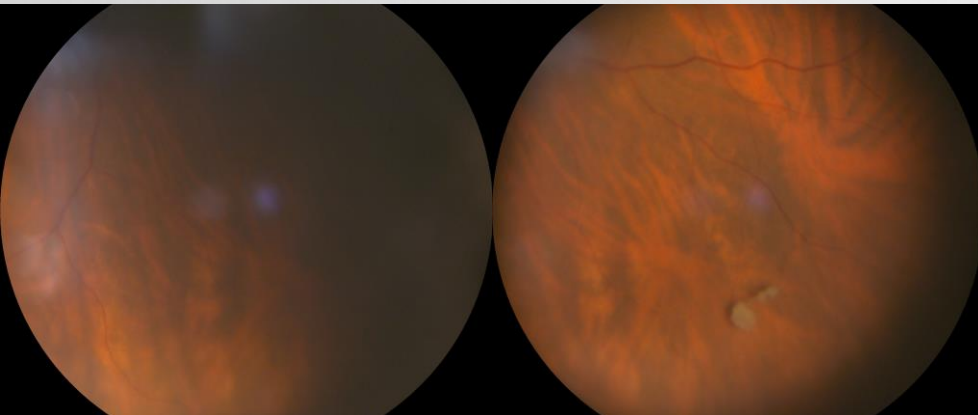
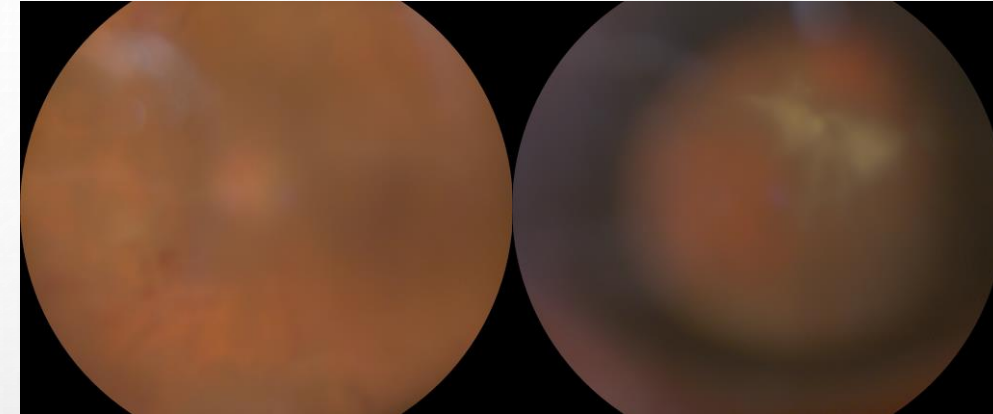
# Endophthalmitis with Roth spots after anti-VEGF injection

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- A 48-year-old woman with a diagnosis of branch retinal vein occlusion in her left eye is treated with aflibercept intravitreal injections. Five days after the last intravitreal injection she complains of painless blurring of vision in her left eye. The clinical findings in her left eye include; best corrected visual acuity is counting fingers in 0.5m, 3 + cells in the anterior chamber, moderate **vitritis** and retinal **haemorrhages** and **Roth spots**.
- The patient underwent **25G pars plana vitrectomy**, during which a vitreous specimen was collected and sent for culture and antibiotic sensitivity test. At the end of the operation antibiotics were injected into the vitreous cavity, namely; Vancomycin 1mg/0.1ml and Amikacin 0.4/0.1ml and empirical treatment with fortified antibiotics was initiated locally.



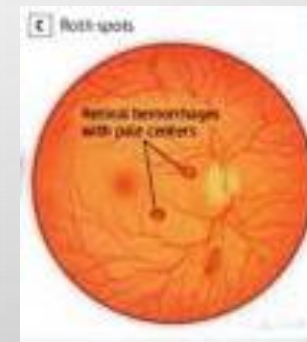
- Two days post vitrectomy the clinical picture is significantly improved, the BCVA is 2/10, the anterior chamber reaction is 2 + cells and the macula is visible during fundus examination. One week post vitrectomy the BCVA is 4/10, the anterior chamber reaction is 0.5 + cells and there are no signs of inflammation in the posterior pole.
- The patient continues the local antibiotic treatment to which coll Dexamethasone 0.1% is added. Eight days post vitrectomy the culture yields **Candida albicans**. The patient was prescribed coll Voriconazole and Fluconazole per os. The patient was referred for CBC, blood culture, HIV, syphilis and Tb testing. The CBC was normal and no underlying systemic infection was detected. One month post vitrectomy the BCVA was 5/10, there was no AC reaction and the vitreous opacities gradually cleared up.

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## Discussion

- Endophthalmitis after an intravitreal injection is a rare condition and is reported less often comparing to other intraocular interventions. Nonetheless it is a potentially sight threatening condition. The incidence of endophthalmitis after an intravitreal injection ranges from 0.095% to 0.0053%. Symptoms and signs may include; redness, pain, blurred vision, eyelid swelling, hypopyon, conjunctival edema, vitritis and retinal haemorrhages. The treatment options include vitreous specimen and intravitreal antibiotics or vitrectomy (and vitreous specimen) and intravitreal antibiotics. This line of treatment is based on the EVS Study, although this study is based on cases of endophthalmitis after cataract surgery.
- **Ocular candidiasis** occurs either from hematogenous seeding (endogenous) or from inoculation from a wound or an intraocular intervention (exogenous). Risk factors for the hematogenous dissemination are urinary catheters, intravenous catheters, immunosuppression, cancer and diabetes. After investigation, we concluded that this patient didn't have systemic candidiasis.
- **Roth spots** are a rare finding in exogenous endophthalmitis. Roth spots are round, oval or flame-shaped hemorrhages with a central white spot. They are considered a hallmark of bacterial endocarditis, although they are associated with various conditions such as anemia, leukemia, hypertensive retinopathy, preeclampsia, diabetic retinopathy, anoxia, sickle cell anemia, multiple myeloma and HIV retinopathy.





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- **Prophylactic measures** before intravitreal injections are povidone iodine instillation on the ocular surface (5% or 10% solution for 30 seconds) or aqueous chlorhexidine as an alternative. Additionally, a no-talking policy can be implemented in order to minimize exposure to the orbital flora. Prophylactic use of topical antibiotics does not reduce the risk of endophthalmitis

### Conclusions

- Intravitreal injections are considered a safe and effective procedure, however endophthalmitis is a rare but potentially sight threatening complication. High clinical suspicion and early treatment can aid in maintaining a patient's vision. Finally, we should keep in mind that there are less common causes of endophthalmitis, like fungi.



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