

# Case of endophthalmitis following intravitreal injections caused by *Staphylococcus saprophyticus*

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## ABSTRACT

**Purpose:** We report a case of infectious endophthalmitis that developed after the third intravitreal injection of aflibercept. *Staphylococcus saprophyticus* is an infrequent cause of post-injection endophthalmitis. **Methods:** Retrospective chart review. **Case presentation:** We describe a patient with acute endophthalmitis after intravitreal aflibercept injection. This was a case of a 79-year-old man who had received three intravitreal injections of aflibercept and developed infectious endophthalmitis 3 days after the third intravitreal injection. Vitreous culture showed that the endophthalmitis was caused by *S. saprophyticus*. The patient received intravitreal ceftazidime and vancomycin, and dexamethasone. After the intravitreal injections, the ocular inflammation gradually decreased and his visual acuity dropped to counting fingers 5 meters in the Left eye. **Conclusions:** In conclusion, *S. saprophyticus* may be an overlooked pathogen for post-injection endophthalmitis cases, since, to our knowledge, is more related by ocular trauma and uncomplicated urinary tract infection.

**Keywords:** Endophthalmitis; Eye infection, bacterial; Staphylococcus saprophyticus; Aflibercept; Intravitreal injection; Case report

# CASE PRESENTATION

- A 79-years-old man presented with a history of reduced vision in the left eye, he had a 2 year history of wet age-related macular degeneration (AMD), during the follow-up, a anti-neovasogenic therapy was proposed in a loading dose regimen (3 injections) with aflibercept (EYLIA). The first two injections were performed without intercurrents. 3 days after applying the third injection of the therapy, the patient was complaining ocular pain and decreased vision. Our initial examination showed the best-corrects visual acuity (BVCA): 20/40 in the right eye (OD) and hand motion in the LE. Biomicroscopy of the LE showed hyperemic conjunctiva 1+, corneal edema, with hypopyon (1.0 mm). The fundoscopy showed vitreitis 4+, with no possibility of evaluating the retina. B-scan Ultrasonography of the left eye showed severe levels of vitreous opacity.

CULTURA

Material : Secção de Cito Espécies

RESULTADO: *Staphylococcus saprophyticus*

MEIO(S) : Agar Chocolate Polivitex, Agar Sangue, Agar Mueller Hinton, Caldo BHI  
Identificada através do sistema Vitak NS

CONDIÇÃO(ES) DE INCUBAÇÃO: Aeróbios e microaerofilia a 35,5 °C

ANTIBIOGRAMA

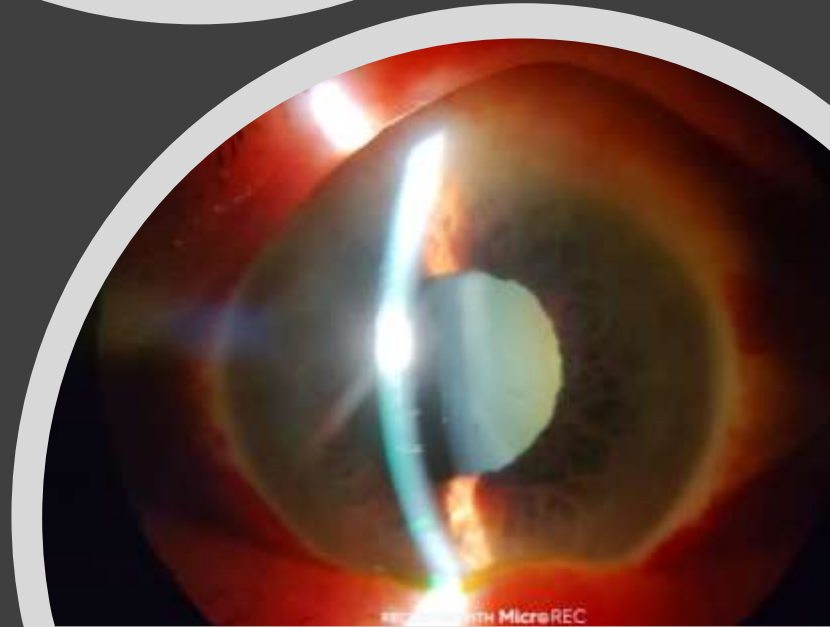
LEGENDA: (R) Resistente (D) Intermediária (S) Sensível (M) Não Testado

ANTIBIÓTICOS		RESULTADO
CIPROFLOXACINA	5 mcg :	S
CLINDAMICINA	2 mcg :	S
DOTIMONAZOL	25 mcg :	S
ERITROMICINA	15 mcg :	M
GENTAMICINA	10 mcg :	S
LINCOLICINA	30 mcg :	S
OXACILINA	1 mcg :	S
RIFAMPICINA	5 mcg :	S
TEICOFLARINA	30 mcg :	S
TETRACICLINA	30 mcg :	S
VANCOMICINA	30 mcg :	S



# CASE PRESENTATION

- A hypothesis of endophthalmitis was suggested, and pars plana vitrectomy was performed with collection of vitreous material for culture and received intravitreal ceftazidime, vancomycin and dexamethasone. Monitored daily, it evolved after 3 days with improvement in pain and visual acuity in the LE. Vitreous culture was positive for *Staphylococcus saprophyticus* resistant to erythromycin and sensitive to vancomycin, ciprofloxacin. After the end of the treatment, he presented (BVCA) counting fingers 5 meters in the LE and the the cornea became transparent; the anterior chamber was quiet with no cell or flare being noted. The fundoscopy showed a papilla with ill-defined borders and discrete subretinal haemorrhage.



# DISCUSSION

- *Staphylococcus Saprophyticus* (*S. saprophyticus*) is a coagulase-negative (CoNS) Staphylococci and an infrequent cause of post-injection endophthalmitis. Intravitreal (IVT) injections have become the main treatment modality for a variety of retinal conditions including macular edema, diabetic retinopathy, and exudative age-related macular degeneration. The incidence of endophthalmitis after intravitreal injection varies from very low rates such as 0.008% to high rates such as 0.092%, mainly due to the conditions in which the injection is applied. Infective endophthalmitis following intravitreal injection is frequently due to coagulase-negative staphylococci. *Staphylococcus saprophyticus* is a Gram-positive, a major uropathogen of uncomplicated urinary tract infection. However, *S. Saprophyticus*, a member of CoNS, is rarely encountered as a cause of post-injection endophthalmitis.

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