



## Short communication

## A case of aminoglycosides induced retinal toxicity treated with megadoses of steroids and an intravitreal dexamethasone implant (Ozurdex®)<sup>☆</sup>



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## ABSTRACT

**Case report:** The case is described of a patient who had a sudden loss of vision in her right eye after glaucoma surgery. A diagnosis of retinal toxicity due to tobramycin (an aminoglycoside) was reached, which was characterised by retinal whitening with a red cherry stain, macular oedema, and vasculitis that progressed to papillary and macular atrophy with arteriolar sclerosis. Given the severity of symptoms an early attempt was made with megadoses of steroids and an intravitreal dexamethasone implant (Ozurdex®, Allergan S.A.), without response.

**Discussion:** Aminoglycoside toxicity is a rare, idiosyncratic, very serious complication for which there is no effective treatment.

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## Keywords:

Aminoglycosides

Retinal toxicity

Cherry red spot

Occlusive vasculitis

Glaucoma surgery

Ozurdex® (intravitreal

dexamethasone implant)

### Tratamiento de un caso de toxicidad retiniana por aminoglucósidos con megadosis de corticoides más implante de dexametasona intravítreo (Ozurdex®)

## RESUMEN

## Palabras clave:

Aminoglucósidos

Toxicidad retiniana

Mancha roja cereza

**Caso clínico:** Paciente que tras cirugía de glaucoma presenta pérdida súbita de visión, llegándose al diagnóstico de toxicidad retiniana por tobramicina, caracterizada por blanqueamiento retiniano con mancha roja cereza, oedema macular, y vasculitis con evolución a atrofia papilar y macular con esclerosis arteriolar. Ante la gravedad del cuadro ensayamos

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Vasculitis oclusiva  
Cirugía de glaucoma  
Ozurdex® (implante vítreo de dexametasona)

con megadosis de corticoides e implante intravítreo de dexametasona (Ozurdex®, Allergan S.A.) precozmente, sin buena respuesta.

Discusión: La toxicidad por aminoglucósidos es una complicación infrecuente, muy grave e idiosincrásica. Destacar que no existe tratamiento efectivo.

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## Case report

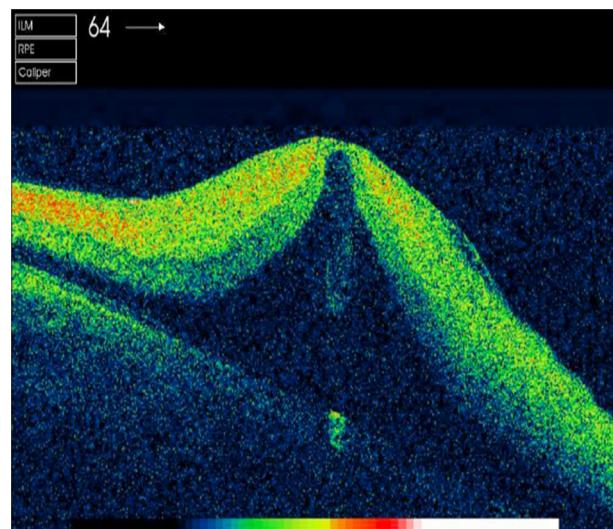
We present the case of an 18-year-old male who underwent a trabeculectomy with mitomycin C of both eyes 3 years ago. On examination he was seen to have a corrected visual acuity (VA) of 1, as well as intraocular pressure levels of (IOP) 32 mmHg in the right eye (OD) and of 10 mmHg in the left eye (OS). Additionally, he had undergone an upper iridotomy of the OD, which also had a flat ampoule and papillary excavation of 0.7. He had received treatment with bimatoprost and timolol (Ganfort®, Allergan Pharmaceutical, Ireland), as well as brimonidine (Alphagan®, Allergan Pharmaceutical, Ireland), and brinzolamide (Azopt®, Alcon Cusí, El Masnou, Barcelona) for that eye. Given the impossibility of controlling the IOP with the maximum pharmacological treatment described, a deep non-penetrating sclerectomy was carried out with mitomycin C and retrobulbar anaesthesia. No incidents were recorded during the procedure, and subconjunctival antibiotic prophylaxis consisting of 0.5 ml of tobramycin (Tobra-Gobens® 100 mg/2 ml) was administered at the end of it.

During the immediate postoperative stage, the VA of the OD consisted in perception of light, a normal anterior segment, an established anterior chamber, an adequate filtering ampoule and IOP levels of 13 mmHg. However, the funduscopic study revealed signs of ischaemia with significant macular whitening, oedema and a red cherry stain; the vitreous humour, optical nerve and peripheral retina were normal (Fig. 1).

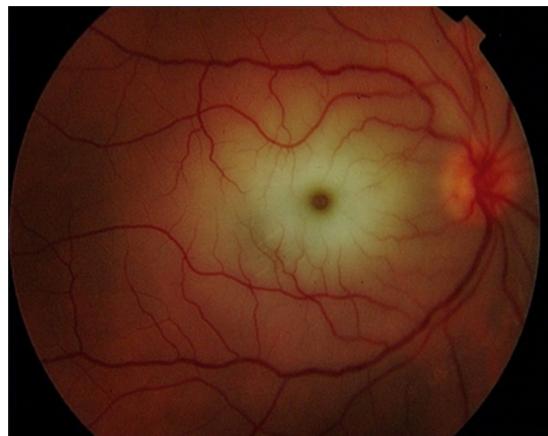
The optical coherence tomography (OCT) revealed a macular oedema with characteristic involvement of the external layers of the retina and intact internal layers (Fig. 2). The fluorescein angiography (FA) revealed macular retinal ischaemia surrounded by hyperfluorescent dots due to the oozing of

the juxtapfoveal vessels (Fig. 3). Perivascular also hyperfluorescence was identified in the peripheral retina secondary to occlusive vasculitis with contrast diffusion (Fig. 4).

Given the presence of vasculitis, a complete study was performed in order to rule out a potential autoimmune disease and, while still awaiting the results, treatment with systemic corticoids was initiated with 3 megadoses of 1 g of intravenous methylprednisolone and 1 mg/kg/d of oral prednisone for 3 weeks at a gradually decreasing dose and, lastly, an intravitreal dexamethasone implant (Ozurdex®, Allergan S.A.) (Allergan Pharmaceuticals Ireland) was inserted.



**Fig. 2 – Macular oedema detected in an optical coherence tomography.**



**Fig. 1 – Retinography showing a “red cherry stain” image.**



**Fig. 3 – FA in mean times, with perimacular occlusive vasculitis and macular ischaemia.**

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