Bilateral endogenous fungal endophthalmitis secondary obstructive pyelonephritis

Endoftalmite fúngica endógena bilateral secundária a pielonefrite obstrutiva

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ABSTRACT

The authors report a case of bilateral endogenous fungal endophthalmitis occurred after decompression nephrostomy due to secondary obstructive pyelonephritis the treated nephrolithiasis initially with intravitreal voriconazole (100 mg / 0.1 ml) but evolved without therapeutic response requiring the posterior vitrectomy (23G).

Keywords: Pyelonephritis/complications; Endophthalmitis/etiology; Endophthalmitis/drug therapy; Fungal eye infections; Voriconazole/therapeutic use; Vitrectomy; Case reports

RESUMO

Os autores relatam um caso de endoftalmite fúngica endógena bilateral ocorrida após nefrostomia descompressiva decorrente de pielonefrite obstrutiva secundária a nefrolitíase tratada, inicialmente, com injeção intravitre de voriconazol (100 ig/0.1 ml) porém evoluiu sem resposta terapêutica sendo necessária a vitrectomia posterior (23G).

Descritos: Pielonefrite/complicações; Endoftalmite/etiologia; Endoftalmite/quimioterapia; Infecções oculares fúngicas; Voriconazol/uso terapêutico; Vitrectomia; Relatos de casos

**INTRODUCTION**

Fungi are the most common agents in endogenous endophthalmitis, represented in most cases by *Candida*<sup>1</sup>. In the last decades, the increase in incidence has been influenced by several factors, such as the diffusion of antibiotic therapy, intravenous catheterization, the use of prolonged parenteral nutrition, immunosuppression caused by systemic disease or induced immunosuppressive therapy, the use of illicit drugs and prematurity at birth<sup>2</sup>.

Currently, amphotericin B is used as first-line treatment in fungal endophthalmitis, despite its local and systemic toxicity. The emergence of azole antifungals that have lower rates of side effects and the possibility of oral administration has been presented as an alternative to amphotericin B<sup>3</sup>. Voriconazole is a second generation triazole agent active against all *Candida* species, including resistant strains. Some cases have been described regarding the therapeutic success of voriconazole in patients with fungal endophthalmitis<sup>4</sup>.

The present report aims to show a case of bilateral endogenous fungal endophthalmitis which occurred after decompressive nephrostomy due to obstructive nephrolithiasis, treated with posterior vitrectomy and intravitreal injection of voriconazole.

**CASE REPORT**

White female patient, 59 years old, from Brotas, São Paulo, attended at the ophthalmology department at Faculdade de Medicina de Botucatu - São Paulo, with a complaint of progressive low visual acuity in the right eye (RE) for 60 days, a little pain, photophobia and hyperemia, followed by the left eye (LE) 20 days afterwards. One month before the onset of the ocular condition the patient had obstructive pyelonephritis with right-sided pyonephrosis secondary to nephrolithiasis and treated with decompressive nephrostomy and antibiotic therapy. Due to her severe general condition, she was admitted to the intensive care unit for three days with a central venous catheter. Hemoculture was positive for *Candida albicans*, having started treatment first with intravenous Fluconazol and later orally. The following comorbidities were shown: systemic arterial hypertension, cholecystectomy, three previous nephrostomies, atrioseptoplasty with bovine pericardial flap 25 years before; she denied diabetes mellitus, smoking and alcoholism. She was in use of Dexamethasone 0.1%, Atropine and Fluconazol 150mg 2 tablets every 12hours for 6 days. The ophthalmologic examination showed visual acuity (VA) without correction in finger counting at 1 meter in the RE and in finger counting at 2 meters in the LE, conjunctival hyperemia 2/4+, ciliary injection, cornea with diffuse fine ceramic precipitates, anterior chamber reaction 4+ and bilateral flare 3+, hypopyon with level <1mm in the right eye, drug mydriasis in both eyes, opalescent crystalline. Fundoscopy showed intense vitreitis (3+), RE retina with whitish cotton ball-like lesions temporarily to the macula and in the left eye adjacent to the macular region and optic disc (Figure 1). The patient was hospitalized and the medications were replaced by Prednisolone 1% every 2 hours, Tropicamide every 8 hours, and Fluconazole 400mg every 12 hours EV. A vitreous puncture was carried out associated to intravitreal injection of Voriconazole, first in the LE, as described, patient in supine position, antisepsis and placement of sterile fields, blepharostat, instillation of eyedrops Proximetacaine (Anestalcon, Alcon, Brazil) and Iodopovidone 5%, puncture of 0.2 ml of vitreous with needle of 27G at 4mm of the limb in the superior temporal region, and injection of 100 ìg/0.1 ml of Voriconazole. As there was no improvement in the ophthalmologic condition, five days after the injection a posterior vitrectomy was performed via pars plana (23G) using balanced saline solution as a vitreous substitute, without re-application of voriconazole intraoperatively. The clinical improvement of the patient was waited, and after 1 month the same procedures were performed in the RE. All blood cultures and vitreous cultures collected at the time of the interventions - intravitreal injection and vitrectomy - were negative even 2 weeks after collection. It evolved with dense posterior subcapsular cataract and bilateral macular epiretinal membrane. Phacoemulsification was held with intraocular lens implant inside the capsular sac (LIO +21.50, SRKT formula, axial length...
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22.37mm, K45.00 @ 180x47.25 @ 90, AR40 e Sensar Abbott, 3 partes) foi realizada no LE, e posteriormente um catarata foi removida no RE usando triamcinolone e luz azul (Figuras 2 e 3). O procedimento foi realizado sem intercorrências. Atualmente, ele apresenta VA de 0.2/0.1, apesar da membraña madura no LE.

**DISCUSSÃO**

Os autores relatam um caso de endoftalmite fúngica endógena bilateral causada por nefropatia pirênica em uma paciente feminina adulta que apresentou alguns fatores de risco para infecção fúngica, incluindo hospitalização, conduta venosa central e insuficiência urinária superior aguda. A hipótese diagnóstica foi estabelecida a partir da clínica ocular, cultura de sangue e exames de detecção de microrganismos. A principal característica ophthalmológica associada ao diagnóstico foi a presença de uma lesão branca, elevada e mal definida na retina, localizada no pôlo posterior, que pode ser única ou múltipla. O diagnóstico foi confirmado pelo exame de cultura de sangue e examen de PCR.

A lesão remissão, como recomendado (11), foi realizada através de tratamento cirúrgico. Uma única injetção foi realizada, e não os doses diárias até a melhora do paciente. A melhor acuidade visual após a cirurgia foi de 0.2/0.1, apesar da membraña madura no LE.

**REFERÊNCIAS**


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