Rev Iberoam Micol. 2016;33(2):122–125

Revista Iberoamericana de Micología

www.elsevier.es/reviberoammicol

Note

Endophthalmitis of probable endogenous origin caused by *Scedosporium boydii*: A case report

Virginia Vanzzini-Zago[a,*], Sonia Corredor-Casas[d], Abelardo Rodríguez-Reyes[b], Francisca Hernández-Hernández[c], Patricia Manzano-Gayosso[c], Rubén López Martínez[c], Alan Ricardo Alba Orozco[e]

[a] *Laboratorio de Microbiología del Hospital Asociación para evitar la Ceguera en México, Mexico*
[b] *Laboratorio de Patología del Hospital Asociación para Evitar la Ceguera en México, Mexico*
[c] *Departamento de Microbiología y Parasitología, Facultad de Medicina, Universidad Nacional Autónoma de México, México, D.F., Mexico*
[d] *Ophthalmic Pathology Chief, Instituto Mexicano de Oftalmología IAP Querétaro - Querétaro, Mexico*
[e] *Becario del Servicio de Retina del Hospital Asociación para evitar la Ceguera en México, Mexico*

ARTICLE INFO

Article history:
Received 5 October 2014
Accepted 24 July 2015
Available online 10 February 2016

Keywords:
Scedosporium apiospermum species complex
Fungal endophthalmitis
Mycosis
Enucleation

ABSTRACT

Background: Mycotic ocular infections caused by the *Scedosporium apiospermum* species complex are challenging to treat because of the delayed diagnoses and poor responses to antifungal drugs and surgical treatment.
Case report: A case of a 69-year-old male patient with a history of diabetes mellitus type 2 and prior surgery on the right femur is described. In the 10 days prior to the ophthalmic consultation he started with ocular pain, adding to a previous and progressive loss of visual acuity in his right eye. The diagnosis of endophthalmitis of probable endogenous origin was established. Despite medical treatment, the patient's condition worsened and, due to the imminent risks, an enucleation was performed. Smears of the enucleation tissue revealed fungal cells, and the cultures yielded a fungus belonging to the *S. apiospermum* species complex, which was identified as *Scedosporium boydii* by morphological characteristics and sequencing of a PCR amplicon.
Conclusions: A diagnosis of endophthalmitis of probable endogenous origin in the right eye was based on a previous right femur surgery. Potential risk to the patient led to enucleation.

Endoftalmitis de probable origen endógeno causada por *Scedosporium boydii*. Informe de un caso

Palabras clave:
Complejo de especies de *Scedosporium apiospermum*
Endoftalmitis fúngica
Micosis
Enucleación

RESUMEN

Antecedentes: Las infecciones micóticas oculares causadas por el complejo de especies de *Scedosporium apiospermum* son un reto en el tratamiento por su diagnóstico tardío y la pobre respuesta a los antimicóticos y al tratamiento quirúrgico.
Caso clínico: Se describe el caso de un paciente de sexo masculino de 69 años con antecedentes de diabetes mellitus de tipo 2 y cirugía previa del fémur derecho. Diez días antes de la consulta oftalmológica comenzó con dolor ocular que se sumaba a una pérdida previa y progresiva de la capacidad visual en el ojo derecho. Se estableció el diagnóstico de endoftalmitis de posible origen endógeno. A pesar del tratamiento, el paciente no presentó mejoría y por los inminentes riesgos se decidió llevar a cabo una enucleación. El frotis a partir del tejido enucleado mostró células fúngicas y los cultivos revelaron un hongo perteneciente al complejo *S. apiospermum*, identificado como *Scedosporium boydii* por procedimientos morfológicos y por secuenciación de un amplicón de PCR.

* Corresponding author.
E-mail address: vivanzzini@yahoo.com (V. Vanzzini-Zago).

http://dx.doi.org/10.1016/j.riam.2015.07.006
1130-1406/

Conclusiones: El diagnóstico de endoftalmitis de probable origen endógeno en el ojo derecho se basó en el antecedente de una cirugía previa de fémur, cuyos riesgos para el paciente condujeron a una enucleación.

The few ocular infection cases shown to be caused by the *Scedosporium apiospermum* species complex have been a challenge to treat because of the delayed diagnoses, and poor response to antifungal drugs and surgical treatment.[1]

Patients diagnosed with fungal endogenous endophthalmitis are associated with transient fungaemia and/or underlying systemic disorders. Patients with uncontrolled diabetes mellitus, long periods of antibiotic treatment, or immunosuppression therapy are at risk for endogenous endophthalmitis.[2] Conversely, there are some reports stating that corneal infection with the *Scedosporium* species complex is associated with traumatic injuries and concomitant exogenous endophthalmitis.[15]

Some upper respiratory tract fungal infections have been associated with exogenous fungal endophthalmitis due to the loss of the natural mechanical barriers by destruction of the periorbital paranasal sinus bone walls. *Candida* species have been reported as a frequent cause of endogenous endophthalmitis via the haematogenous route in drug abusers, in patients under prolonged broad spectrum antibiotic therapy, or in patients after intestinal septic embolism.[16,18] *Aspergillus* spp., *Fusarium* spp. and some pigmented fungi have also been associated with this pathology, and these fungi commonly induce a poor visual outcome.[9,12] Endophthalmitis cases with both traumatic and non-traumatic origin have been described, indicating a severe septicaemia condition.[7] Here we report an endogenous fungal endophthalmitis case in a diabetic patient with a previous femur surgery, delayed diagnosis and a poor therapy outcome.

Case report

A 69-year-old man diagnosed 6 years before with diabetes mellitus (not well controlled with glibenclamide due to the irregular intake of the medication), and with chronic arterial hypertension (treated irregularly with captopril) underwent surgery of the right femur 9 months before his first ophthalmic visit. He sought ocular medical assistance due to several symptoms: right ocular pain for the last 10 days, progressive loss of vision over the past 8 months and the presence of a central white spot on his right eye cornea for the last 4 days.

The ocular examination showed that the right eye pupil was unresponsive to direct or consensual papillary reflex. Corneal edema, 100% hypopyon, hyperemic conjunctiva, and ciliar reaction of the limbus were present. The intraocular pressure (IOP) was 2 mmHg, and the patient indicated no light perception. No other disorders were visible.

Since our first ocular evaluation, we found that the vision and direct papillary reflex of the left eye were normal, and the anterior segment had no signs of inflammation. The IOP was 10 mmHg, cup 0.65, and there were no signs of diabetic retinopathy. The patient was receiving treatment with timolol, brimonidine, dorzolamide, and latanoprost for open angle glaucoma in the left eye.

The patient was hospitalized with a clinical diagnosis of endophthalmitis in the blind and painful right eye. An ultrasound showed total funnel retinal detachment in contact with the posterior lens capsule (Fig. 1); there were no mobile condensations in the vitreous cavity or diffuse inflammatory thickening of the choroid. The haematogenous abnormalities were leukocyte cell count 9000 mm^{-3}; 48.9 mg/dl glucose; 53.6 mg/dl blood urea; 1.47 mg/dl blood creatinin.

All anti-glaucoma drugs for the left eye were discontinued as the patient did not have an optic disk glaucoma lesion. For the right eye, enucleation was successfully performed, and the post-operative course was satisfactory.

The extracted tissue was sent for microbiological and histopathology studies. A Gram stain showed that no bacteria were present. The periodic acid Schiff (Fig. 2) and Grocott stains revealed thin septate hyphae, which were surrounded by histiocytes, neutrophils, and necrotic debris. The hyphae were located throughout the retina and choroid. Fibrosis and retinal atrophic changes (gliosis and loss of ganglion cells) were observed around the main lesion. The cornea presented with ulceration and polymorphonuclear leukocyte infiltration, but fungal cells were not observed in the corneal structures.

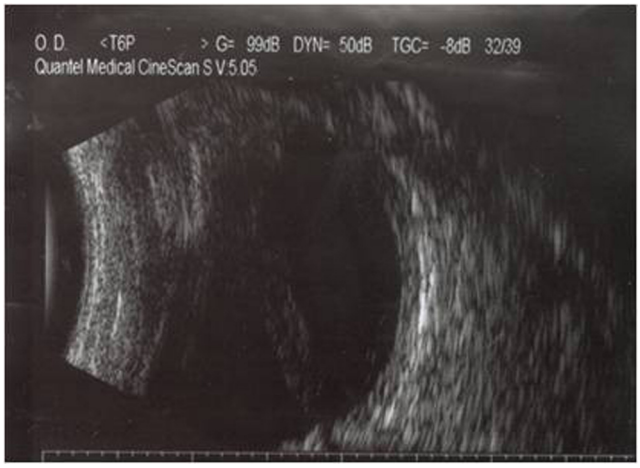

Fig. 1. A right eye ultrasound image showing a total retinal detachment contacting the posterior lens capsule.

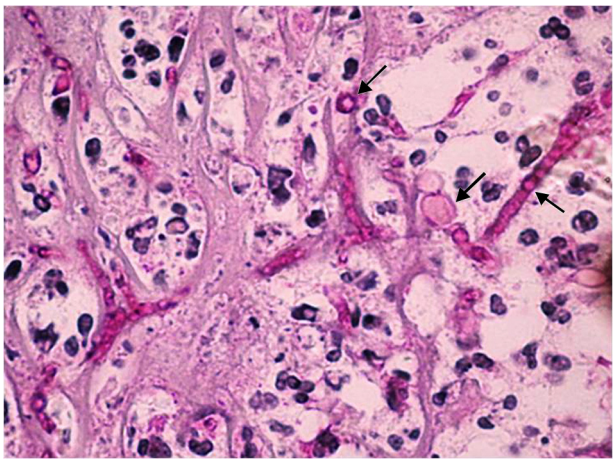

Fig. 2. PAS stained section of the enucleated ocular tissue. Irregular, thin, septate hyphae and round fungal structures (arrows) with a background of necrotic detritus and neutrophils were observed (40×).