Short communication

Endogenous endophthalmitis as a first clinical manifestation of Klebsiella sepsis. The importance of an early diagnosis

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Abstract

Case report: A diabetic patient who developed a unilateral uveitis with a chorioretinitis patch in his right eye associated with decreased visual acuity and fever.

Endogenous endophthalmitis was suspected and complementary tests were performed, finding hepatic abscesses with Klebsiella isolation in the biopsy. The ocular disorder slowly improved with intravenous therapy and guided percutaneous liver drainage.

Conclusion: Endogenous Klebsiella endophthalmitis is an uncommon condition with severe complications. An early diagnosis and aggressive antibiotic therapy can ameliorate the final course but the visual outcome still remains poor.

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Primera manifestación oftalmológica de una sepsis por Klebsiella. Importancia de la sospecha diagnóstica precoz

Resumen

Caso clínico: Paciente diabético que desarrolla una uveíta unilateral con un foco de coriorretinitis en el ojo derecho asociado a fiebre y disminución de la visión.

Suspicábase una endoftalmitis endógena se realizaron pruebas complementarias encontrándose abscesos hepáticos con biopsia positiva para Klebsiella. La afectación ocular se fue resolviendo gracias a antibioticoterapia intravenosa y al drenaje percutáneo de los abscesos.

Conclusión: La endoftalmitis endógena por Klebsiella es un hallazgo poco frecuente con consecuencias graves. Un diagnóstico y un tratamiento antibioticoterapéico tempranos pueden mejorar el cuadro aunque la visión resultante suele ser pobre.

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Introduction

Endogenous endophthalmitis occurs when microorganisms penetrate the eyes through the hematoretinal barrier from the blood stream and originate a primary infection area. In 12% of cases, endogenous endophthalmitis can affect both eyes.

In the majority of these bacterian outbreaks ocular involvement does not occur, although some risk factors such as diabetes or hepatic abscesses can facilitate said disease.\textsuperscript{1,2}

The most usual pathogens described in medical literature are gram-negative germs of the Klebsiella\textsuperscript{3} family, of which some strands with virulence factors such as serotype K1 expressed by gene magA account for the invasive syndrome, which can associate, among other diseases, endophthalmitis and liver abscesses.\textsuperscript{4}

Says disease can be confused with other uveitis conditions and this could entail delays in diagnosis and therefore in treatment.

The functional prognostic is poor even with adequate treatment. Up to 80% of eyes could experience vision reduction up to hands movement or light perception, while 25% may suffer phthisis or require evisceration; even the underlying systemic disease could have an associated mortality of 5–10%.\textsuperscript{5}

Clinic case

A male, Caucasian, 59 years, diabetic, not infected by HIV, visited the primary care physician due to fever without apparent cause preceded by chills and trembling. Treatment with amoxicillin-clavulanic acid is established. After 6 days the fever remits but the patient referred visual loss in the right eye and was referred to the ophthalmological emergencies service.

The ophthalmological exploration revealed a corrected visual acuity in said eye of 0.05 whereas the contralateral eye BCVA was of 1. The biomicroscopy of the affected eye revealed a cellular inflammatory reaction of +++ without presence of ruberosis, atrophy or associated iridian nodules. Despite dash lines 1+vitritis, funduscopy showed a chorioretinitis focus which associated round dish hemorrhages (Figs. 1 and 2).

Due to the previous feverish condition without apparent cause as well as associated risk factors such as diabetes and the ophthalmological situation, endogenous endophthalmitis

Fig. 1 – Chorioretinitis focal point with retinal hemorrhages and vitritis.

Fig. 2 – Expanded detail of Fig. 1.

Fig. 3 – Abdominal CAT: hepatic abscess.

Fig. 4 – Resolution of the condition with lower vitritis and less hemorrhages. Chorioretinitis focus closes.
was suspected and the patient referred to the internal medicine service to determine a possible primary focal point.

During general exploration the patient referred painful abdominal swelling in relation to coughing which, together with the analysis that provided hepatic serology for negative VHB and VHC negative, GGT 211, alkaline phosphatase 93, PCR 250 mg/l, and leucocytosis of 12.67 (75.7% neutrophiles), made it advisable to perform a supplementary abdominal echography which revealed multiple hepatic abscesses of 2, 3, 5, 7 and 9 cm, which were seen with greater detail in an abdominal CAT scan (Fig. 3). A transcutaneous biopsy of said abscesses and subsequent culture gave positive for Klebsiella pneumoniae. The antibiogram exhibited sensitivity to fluoroquinolones.

In the light of the findings, the patient was admitted and placed on IV antibiotic treatment with ciprofloxacin 500 mg/12 h during 21 days and percutaneous drainage of the hepatic abscess. This treatment brought about a positive evolution of the general symptoms.

One week after the patient’s admission, an ophthalmological assessment carried out after the treatment established in the internal medicine service showed a vision improvement of up to 0.5 in the right eye, Tyndall was only of one cross, the retinal infiltration point was less active and vitritis as well as retinal hemorrhages had diminished. After completing treatment and being discharged, the patient’s vision was of 0.8 with Tyndall (−) with residual vitritis (+/−). The chorioretinal focus formed a scar (Figs. 4 and 5).

**Discussion**

Despite adequate treatment, endogenous endophthalmitis due to Klebsiella has a poor visual prognosis due to its extreme virulence and delay in treatment derived from a difficult diagnosis due to the low frequency of the condition which prevails mainly in Asians and exhibits similarities with other ophthalmological conditions. In our case, the patient did not require intravitreal treatment due to the low reactivity of the posterior endophthalmitis which responded favorably to the IV treatment. Clinical suspicion by the ophthalmologist and early treatment could be crucial in some cases to achieve good final visual acuity.

**Conflict of interests**

The authors have no conflict of interests to declare.

**References**