



Case illustrated

Endogenous endophthalmitis caused by *Streptococcus agalactiae*: An ophthalmologic emergency

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ABSTRACT

Here, we present a 76-year-old diabetic man who was diagnosed as having endogenous endophthalmitis caused by *Streptococcus agalactiae* that finally developed globe rupture, which is a rare endogenous endophthalmitis complication. This case highlights that endogenous endophthalmitis is an ophthalmological emergency with poor prognosis, thereby requiring prompt diagnosis and aggressive intervention.

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A 76-year-old Japanese man with diabetes mellitus presented with a 9-day history of fever and decreased vision in his right eye. There was no history of recent eye trauma or surgery. He was previously taking oral cefditoren-pivoxil for five days, followed by levofloxacin for two days. Ophthalmological examination revealed a swollen eyelid, conjunctival hyperemia, corneal opacity, and hypopyon of the right eye (Fig. 1A). Intravenous ceftriaxone and vancomycin, along with intravitreal ceftazidime and vancomycin, were initiated following a diagnosis of endogenous endophthalmitis. The antibacterials were changed to intravenous penicillin G after blood culture test results revealed *Streptococcus agalactiae*; however, the right eye self-destroyed six days after admission (Fig. 1B). Therefore, eye enucleation was performed seven days after admission. Additional systemic examination revealed vertebral osteomyelitis and septic arthritis. Although the patient lost his right vision, he completely recovered from the infections following an 8-week intravenous antimicrobial therapy.

Decreased vision (90%) is the predominant symptom of endogenous endophthalmitis [1]. *S. agalactiae* accounts for only 5.2% of the causes of endogenous endophthalmitis [2]. Endogenous endophthalmitis caused by *S. agalactiae* has a poor prognosis; 76% of infected eyes have light perception or less, and the mortality rate

is 9% [2]. However, administering intravitreal antimicrobials injection within two days and performing vitrectomy within three days for patients with streptococcal endophthalmitis are associated with good visual outcomes [3,4]. However, vitrectomy can be ineffective for patients with initial visual acuity less than counting fingers at diagnosis [5]. Thus, the diagnostic delay (nine days from onset to diagnosis) may have been a substantial factor for poor visual outcome involving globe rupture (a rare clinical presentation of endogenous endophthalmitis). In conclusion, fever with decreased vision can be meaningful symptoms for predicting endogenous endophthalmitis. Clinicians should recognize that endogenous endophthalmitis is an ophthalmological emergency having potentially poor prognosis, and thus, prompt diagnosis and aggressive intervention are essential.

Contributors

All authors were involved in the patient treatment. TN and MK contributed equally to this manuscript. TN and MK were involved in the literature review and drafted the manuscript. KY provided clinical pictures of the case. All authors revised the manuscript and approved its final version.

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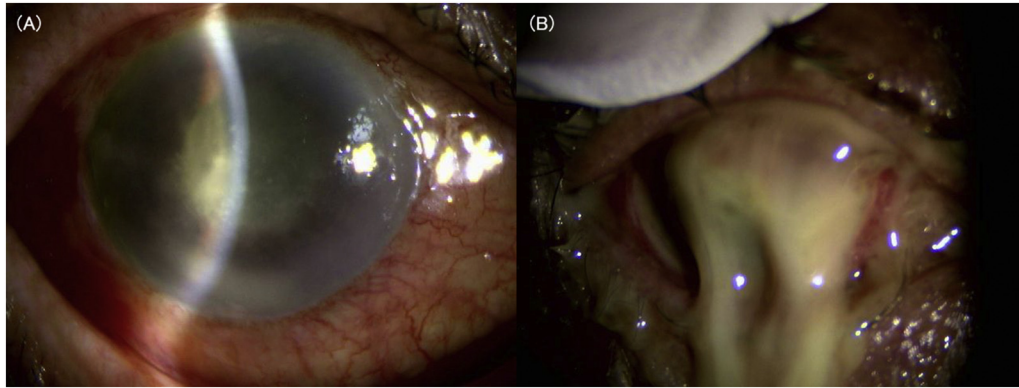


Fig. 1. Ocular findings of ophthalmological examination.

(A) Conjunctival hyperemia, corneal opacity, and hypopyon of the right eye on admission.

(B) Purulence flowing out of the right eye (globe rupture) six days after admission.

Declaration of interests

We declare no compelling interests. Written informed consent for publication was obtained from the patient.

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