

***Pseudomonas aeruginosa*-induced bilateral endophthalmitis after bilateral simultaneous cataract surgery: case report**

Endoftalmite bilateral induzida por *Pseudomonas aeruginosa* após cirurgia bilateral simultânea de catarata: relato de caso

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ABSTRACT | Bilateral simultaneous cataract surgery (BSCS) has gained popularity among eye surgeons in many countries. This study examines the case of a 77-year-old patient who developed bilateral *Pseudomonas aeruginosa* endophthalmitis following bilateral simultaneous cataract surgery. Immediate bilateral vitrectomy and intravitreal antibiotics injection were performed. Ultimately, both eyes were eviscerated due to pain refractory to treatment and no light perception.

Keywords: Endophthalmitis; Cataract extraction; *Pseudomonas aeruginosa*; Postoperative complications; Case reports

RESUMO | A cirurgia bilateral simultânea de catarata ganhou popularidade entre cirurgias oftalmológicas em muitos países. Este estudo examina o caso de um paciente de 77 anos que desenvolveu endoftalmite bilateral por *Pseudomonas aeruginosa* após uma cirurgia bilateral simultânea de catarata. Vitrectomia bilateral imediata e injeção de antibióticos intravítreos foram realizadas. Em última análise, ambos os olhos foram eviscerados devido à dor refratária ao tratamento e sem percepção de luz.

Descritores: Endoftalmite; Extração de catarata; *Pseudomonas aeruginosa*; Complicações pós-operatórias; Relatos de casos

INTRODUCTION

Bilateral simultaneous cataract surgery (BSCS) has gained popularity among eye surgeons in Mexico and other countries^(1,2). In this study, we present a case of

bilateral multidrug-resistant *Pseudomonas aeruginosa* endophthalmitis following BSCS. This is one of the few reports of bilateral endophthalmitis following BSCS in an immunocompetent patient^(3,4).

CASE REPORT

A 77-year-old patient requested consultation due to intense pain as well as decreased vision for approximately 8 days. The patient noted that the symptoms appeared 1 day after bilateral simultaneous phacoemulsification surgery. The patient had a 15-year history of diabetes mellitus. On examination, the patient had light perception in the left eye but not the right eye. Lid edema, marked conjunctival chemosis, hyperemia, and total yellow-greenish hypopyon were found in both eyes (Figure 1).

Based on these findings, a diagnosis of bilateral endophthalmitis was made. Three-port 25-gauge pars plana vitrectomy, vitreous biopsy, and an intravitreal injection of 2.25 mg/0.1 ml ceftazidime and 1 mg/0.1 ml vancomycin were performed in both eyes.

Intravitreal culture revealed the growth of multidrug-resistant *Pseudomonas aeruginosa*.

The patient experienced intense pain refractory to medical treatment with no light perception in both eyes for several more days, and thus, he underwent evisceration of both eyes.

BSCS is increasingly utilized by cataract surgeons globally. Nonetheless, its use causes debate and disagreement among cataract surgeons⁽¹⁾. One of the inherent risks of BSCS is bilateral endophthalmitis, which, despite being rare, could be a devastating complication in patients. In particular, Ozdec et al.⁽³⁾ described a case of bilateral endophthalmitis following BSCS that finally resulted in functional vision loss on both eyes. In 2007,

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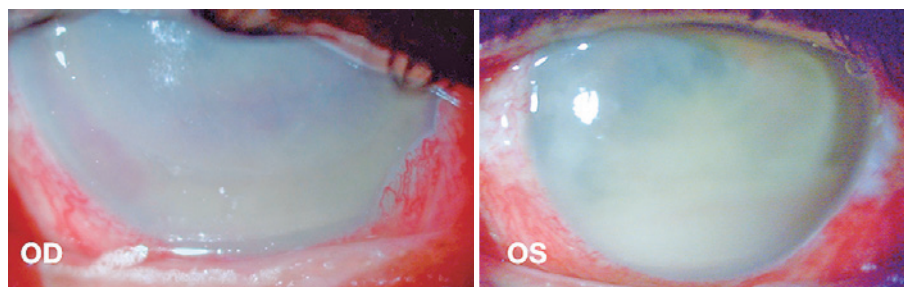


Figure 1. Slit-lamp image of a patient with bilateral *Pseudomonas aeruginosa* endophthalmitis following bilateral simultaneous cataract surgery.

Kashkouli et al.⁽⁴⁾ reported a case of bilateral *Pseudomonas* endophthalmitis following BSCS with a poor outcome. Both eyes of our patient had to be eviscerated due to refractory pain and a lack of light perception despite vitrectomy and intravitreal antibiotics treatment. Meanwhile, unilateral endophthalmitis after BSCS has also been reported⁽²⁾.

The incidence of endophthalmitis after cataract surgery has ranged 0.03-0.072%. Gram-negative microorganisms only cause 6% of cases according to the Endophthalmitis Vitrectomy Study. Occasionally, the origin of this type of bacteria could be a contaminated phacoemulsifier or the viscoelastic material. When *Pseudomonas aeruginosa* or *Bacillus* is the causative agent of endophthalmitis, the preservation of some useful vision has rarely been reported^(5,6).

BSCS is a highly contentious subject in ophthalmology, mainly due to its risk of bilateral endophthalmitis and financial penalties that many ophthalmologists incur when performing simultaneous cataract surgeries. Some authors have suggested that if complete separation of the two eyes is performed and a strict sterile protocol is followed in BSCS, the risk of bilateral endophthalmitis is extremely low⁽⁷⁻⁹⁾. However, it is unclear whether a strict sterile protocol was followed in BSCS for our patient. The debate regarding the utility of BSCS is ongoing. Despite the reported low incidence of bilateral endophthalmitis, we believe that BSCS should only be performed in select cases due to the devastating effects of this complication.

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