Keratitis with *Elizabethkingia meningoseptica* Occurring after Contact Lens Wear: A Case Report

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To report keratitis with *Elizabethkingia meningoseptica*, which occurred in a healthy patient after wearing contact lenses for 6 months. A 24-year-old male patient visited our hospital with ocular pain. This patient had a history of wearing soft contact lenses for 6 months, about 10 hours per day. At initial presentation, slit lamp examination showed corneal stromal infiltrations and small epithelial defect. Microbiological examinations were performed from corneal scrapings, contact lenses, and the contact lens case and solution. The culture results from contact lenses, contact lens case and solution were all positive for *Elizabethkingia meningoseptica*. Thus, we could confirm that the direct cause of keratitis was contamination of the contact lenses. The patient was treated with 0.3% gatifloxacin. After treatment, the corneal epithelial defect was completely healed, and a slight residual subepithelial corneal opacity was observed. We diagnosed keratitis with *Elizabethkingia meningoseptica* in a healthy young male wearing soft contact lenses. We conclude that *Elizabethkingia meningoseptica* should be considered as a rare but potential pathogen for lens-related keratitis in a healthy host.

Key Words: Contact lenses, *Elizabethkingia meningoseptica*, Keratitis

*Elizabethkingia meningoseptica* is a Gram-negative bacillus that occasionally causes neonatal meningitis and infections with a wide variety of locations in immunologically compromised patients. This ubiquitous bacterium, formerly known as *Flavobacterium meningosepticum*, was recently termed *Elizabethkingia meningosepticum* (or *meningoseptica*) by some authors. It belongs to the family of *Flavobacteriaceae* and inhabits both natural and hospital environments [1,2]. It can exist in fresh water, salt water, or soil. It may be normally present in fish and frog but not human microflora [3]. In general, the Flavobacterium species posses low virulence and is only rarely a pathogen in humans, mainly infecting newborns and immunologically compromised hosts [4-6]. The clinical information on infections with *Elizabethkingia meningoseptica* is mostly limited to the occasional case reports of patients with various presentations, including meningitis, endocarditis, cellulitis, bacteremia, abdominal abscess, peritonitis, and endophthalmitis. The first known isolation of *Elizabethkingia meningoseptica* from the eye was reported in a case of endophthalmitis in the immediate postoperative period, following penetrating keratoplasty [7]. Herein, we report one case of keratitis with *Elizabethkingia meningoseptica* in a healthy young man who had worn soft contact lens for 6 months prior to diagnosis.

Case Report

A 24-year-old male patient visited our hospital due to right ocular pain. He had been wearing soft contact lenses for six months, for approximately 10 hours per day. He had no medical history of ocular injury, surgery, or treatment with either ophthalmic or systemic medications. No abnormality was found in the blood test. On our initial examination, visual acuity was 20/25 in the right eye and 20/20 in the left eye. Slit lamp examination revealed hyperemia of the right bulbar conjunctiva near the lesion and a corneal epithelial defect sized 0.5 mm × 0.5 mm accompanied by intra-stromal infiltration and peripheral neovascular-
The slit-lamp photography at the first visit showed a 0.5 mm × 0.5 mm-sized round corneal epithelial defect, with stromal infiltration. (B) Seven days after treatment, corneal lesion showed complete re-epithelialization within the sub-epithelial corneal opacity.

Fig. 2. (A) Multiple colonies were formed on the blood agar medium, and each colony showed a very pale yellow pigmented, dome-shaped cluster. (B) Gram staining showed various sizes of gram-negative bacilli (>1,000).