Keratomycosis Caused By Graphium eumorphum (Graphium State of Scedosporium apiospermum)

ABSTRACT

Graphium eumorphum is rarely associated with mycotic keratitis. We report the case of a 30-year-old female presented with complaints of redness and defective vision in the left eye for one month. Gram staining and 10% KOH wet mount of corneal smears revealed fungal filaments. On potato dextrose agar, fast growing greyish white colonies turning grayish black on maturity was obtained. Lactophenol cotton blue (LPCB) staining confirmed the isolate as Graphium eumorphum. The infection was resolved with the combination of natamycin, econazole and itraconazole.

CASE REPORT

A 30-year-old otherwise healthy female presented at the cornea clinic, Aravind Eye Hospital (AEH), Coimbatore, India, by February 2012, with pain, redness and defective vision in the left eye for one month. On examination she had a central corneal ulcer of 4 × 4 mm size with well defined superficial stromal infiltration. The margins of the ulcer were healing with grayish scarring [Table/Fig-1]. There was minimal conjunctival congestion. The rest of the anterior segment was normal and her visual acuity in the eye was 6/60. It was a sudden onset of irritation and blurring of vision without the involvement of trauma. Initially she applied coconut water to the affected eye and was treated with soframycin by local doctors. As there was no relief, patient was admitted to a local eye clinic and was administered with natamycin and itraconazole. On day 5, the patient was discharged and was referred to our hospital. Based on the thorough ophthalmological examination, the patient was strongly suspected to have fungal keratitis. After instillation of 4% lignocaine, the ulcer bed and margins were scrapped and material was inoculated on to blood agar, chocolate agar and potato dextrose agar medium. The corneal smears were subjected to Gram staining and 10% KOH wet mount. On examination, both the smears revealed fungal filaments. Treatment was started topically with 5% natamycin & 2% econazole drops for every hour, itraconazole eye ointment 3 times a day & 1% homatropine drops two times a day. Fast growing greyish white colonies appeared on the 5th day in all inoculated media and on maturation became greyish black. Lactophenol cotton blue (LPCB) staining of the pigmented fungal elements revealed long, erect, narrow, and cemented synnemata (the erect structure consisting of united conidiophores) and the isolate was confirmed as Graphium eumorphum [Table/Fig-2]. The conidia of Scedosporium apiospermum are often formed singly on the conidiophores, while those of G. eumorphum are arranged in clusters at the apices of each synnema. The total follow up period was 15 days and the ulcer healed completely without any reoccurrence. Patient was not presented for any other follow up visit [Table/Fig-3]. Antifungal susceptibility analysis revealed that, the isolate was less (16 µg/mL) susceptible to amphotericin B when compared to voriconazole (0.5 µg/mL). Both natamycin and itraconazole inhibited the growth of the isolate at the concentration of 4 µg/mL.

DISCUSSION

Members of Scedosporium have been described as “emerging fungal pathogens” as serious infections with this pathogen are on the rise. S. apiospermum are ubiquitous filamentous fungi present in soil, sewage, and polluted waters [1]. Keratitis is the most common manifestation of S. apiospermum ocular infection in immunocompetent people [2,3]. Pain, decreased visual acuity photophobia and lacrimation are the most frequent symptoms. In this case pain and decreased visual acuity was present along with redness. Most of the cases were preceded by a corneal injury, but in the present case, history of trauma was absent.

Morphology is the mainstay of diagnosis of infections caused by G.
is sensitive to most of the antimycotics. *Scedosporium apiospermum* is resistant to the same. According to Luu KK, Scott IU, Miller D, Davis JL. Endogenous Mycol Bloom PA, Laidlaw DA, Easty DL, Warnock DW. Treatment failure in a case of fungal Lai TF, Malhotra R, Esmail-Zaden R, Galanopoulas A, Chehade M, Selva D. Use of Scedosporium) from a patient with mycotic keratitis. Given the 4. Associate Professor, Department of Medical Laboratory Technology, College of Applied Medical Sciences, Majmaah University, Ali-Majmaah, Kingdom of Saudi Arabia. Aravind Eye Hospital & Postgraduate Institute of Ophthalmology, Coimbatore, India. 5. Assistant Professor, Department of Medical Laboratory Technology, College of Science Al-Zufl, Majmaah University, Kingdom of Saudi Arabia. 6. Associate Professor, Department of Microbiology, PSG College of Arts and Science, Coimbatore, Tamil nadu, India.

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