Background: Following corneal transplant, donor corneal rim tissue are sometimes cultured to help predict the risk of post-keratoplasty endophthalmitis. In July 2016, the Infection Control (IC) team was notified by the microbiology laboratory of three donor corneal rim cultures growing non-lactose fermenting (NLF) gram negative bacilli, which was unusual for this type of specimen. The IC team initiated an epidemiological outbreak investigation to determine the source of the NLF gram negative bacilli.

Methods: A 12 month retrospective review of donor corneal rim cultures was performed from July 2015 to July 2016, with continual prospective monitoring of donor corneal rim cultures. The protocols used to prepare corneal donor tissues were reviewed. The standard protocol included flooding the tissue with povidone iodine followed by rinsing with a sterile saline solution and then placement in a sterile container with Optisol GS (a preservative solution with gentamicin and streptomycin). The sterile saline rinse that was normally used for processing had been on back order and had been replaced with an alternative brand from March 2016-July 2016. Unopened bottles of the alternative brand of sterile saline fluid and Optisol GS were sent to an outside lab for bacterial culture and remaining product was temporarily quarantined.

Results: Microbiology review revealed seven donor corneal rim cultures positive for NLF gram negative bacilli from May to July 2016. Organisms isolated from the donor corneal rim tissue included Achromobacter xylosoxidans (6), Burkholderia cepacia (3), Stenotrophomonas maltophilia (2) and Elizabethkingia meningoseptica (1). Sterility cultures of Optisol GS demonstrated no growth. Sterility cultures of the sterile saline rinse grew gram positive and gram negative bacteria from all samples. A FDA MedWatch was submitted in July 2016, and on September 6, 2016 a FDA recall notice was submitted. All six bottles of sterile saline sent for culture grew B. cereus, B. cepacia and S. maltophilia. All bottles of "Major Eye Wash" that were quarantined were permanently removed. No clinical infections associated with the positive donor corneal rim cultures were identified.

Conclusion: Microbiologists are the front line for IC surveillance. Close partnership between the IC team and the microbiology lab can help identify potential outbreaks by alerting them of the growth of atypical organisms or clusters.

Case Findings

- All six bottles of sterile saline sent for culture grew B. cereus, Sphingomonas paucimobilis, and Alcaligenes xylosoxidans

Summary

- All bottles of “Major Eye Wash” that were quarantined were permanently removed from stock
- FDA MedWatch report submitted July 2016
- A notification letter was sent to surgeons/facilities regarding the recent findings and it was requested they notify the eye bank if any recipients developed an infection
- Eye bank staff and ophthalmologists were asked to notify IC if any patients with clinical infections were thought to be related
- 15 total cases identified (seven at UCH) associated with the positive donor rim cultures were found
- No patients developed clinical infections
- On 9-7-2016 the manufacturer put out a FDA voluntary recall

References


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Abstract

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