



Acute Endophthalmitis Following Cataract Surgery via Contaminated Phaco Needle

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Cataract is one of the most common causes of visual impairment [1]. It is estimated that there are approximately 30 million blind people in the world and 50 percent of them are blind due to cataracts [2]. The only treatment for cataract is surgery and modern surgical techniques are extremely safe with few major complications [3]. Endophthalmitis is a severe intraocular inflammation which may occur as a serious complication of cataract surgery [4].

In our hospital cataract surgery has been performed since 2003. Over one thousand five hundred cataract operation was performed in our hospital by the same ophthalmologist. This was the first case and also outbreak by this time. Endophthalmitis was occurred in four cases following cataract surgery. The surgery was consecutively performed on the same day. All the patients were over 65 years old. Their past medical history included hypertension, heart failure, Parkinson disease and chronic obstructive pulmonary disease. All four patients were admitted to the hospital on the day of surgery. Implantation of a foldable intraocular lens through clear corneal incision was performed under local and topical anesthesia. Prophylactic antibiotics were not administered in the preoperative and perioperative period. There was no complication occurred during surgery and patients were discharged following the surgery. But on the second day after the surgery all four patients complaining about eye pain and decreasing vision. On physical examination slightly swollen eyelids, decreased visual acuity and hypopyon was revealed. The view of the retina was hazy on ophthalmological examination. The time between cataract surgery and the diagnosis of endophthalmitis was twenty four hours. Multiple cultures were obtained from all parts of phacoemulsifier on the same day of the outbreak by infection control team. All the patients received prednisolone sodium phosphate, moxifloxacin hydrochloride, cyclopentolate hydrochloride and vancomycin drops by topical route, vancomycin and gentamicin by subconjunctival route vancomycin and ciprofloxacin by intravenous route. On the second day of initial treatment signs and symptoms of the patients started to recover dramatically. After follow up of seven days all patients hypopyon have resolved with improved vitritis and inflammation decreased and eventually visual activity corrected.

During the outbreak we focused on the surgical devices because nosocomial surgical infections were considered to be the result of contaminated surgical sites with inadequately

sterilized surgical instruments. We obtained cultures from recent sterilized hydrodissection cannula, capsulorhexis forceps, phaco tip, phaco handpiece, and aspiration and irrigation hose. They were all inoculated into blood, chocolate and eosin methylene blue agar. Koagulase negative staphylococcus was isolated from an aseptically obtained culture of phaco tip. Other culture results were reported negative. We did not able to sample vitreous and aqueous humor. Most cases of endophthalmitis present acutely with hours to a few days of symptoms. Coagulase negative staphylococci (70% of patients) are the most common causes of postcataract endophthalmitis [5]. Bacteriological diagnostic similarities among samples from patients with endophthalmitis and surveillance species have not been shown. This was the crucial limitation of the report. In this outbreak when we investigate the cause of the infections we realized that all phaco tips have disappeared except one that was used during the cataract surgery of four cases and operating staff was keeping it in a tube. This tube presumably didn't allow adequate decontamination and sterilization.

We aimed to share an outbreak experience. This report demonstrates the importance of well organization and close collaboration between sterile service providers, operating staff, infection control team and operator for reducing the risk of surgical infections.

References

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