
POST-SURGICAL ENDOPHTHALMITIS EPIDEMICS: QUALITY CONTROL AND SURVEILLANCE

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Guest Editorial

Medicine and science have progressed tremendously since the dawn of modern research, heralded by the pioneering work of William Harvey in the early 1600s. Modern day cataract surgery is both safe and reliable- safe because of the aseptic precautions we adopt each time we operate, and reliable because we have mastered the technique and technology of delicate microsurgery. These practices have become such an integral part of the operating room and training of health personnel, that we tend to forget the history.

In the mid-1800s hospitals were unclean, operating rooms dirty and surgeons operated in street clothes and bare hands. Nearly half the patients died as a result of infection. Ignaz Semmelewis (1847), the Hungarian physician, was the first to stress the need for cleanliness during surgery. But this was ill understood till Louis Pasteur and Robert Koch (mid 1800s) proved that certain bacteria could cause certain diseases. These discoveries indeed convinced the English surgeon Joseph Lister (1865) to using carbolic acid to sterilize surgical wounds. This was later replaced by more aseptic practices such as cleaning the surgical site, and wearing sterilized gowns, gloves, and mask. Following the improvement in standards of nursing care in the 1800s led by Florence Nightingale during the Crimean war and the training she established in St Thomas Hospital, London, the modern era of *assured and infection-free surgeries* began. These all-round improvements in asepsis and adoption of sterile techniques with a particular emphasis on preparation of the conjunctival cul-de-sac¹ led to a significant reduction in the incidence of post –cataract surgery infectious endophthalmitis, more so in past fifty years.²

This reduction in postoperative infection is, however, has not been uniformly felt., and it is still far from eliminated. Despite meticulous precautions, both isolated infections and epidemics of post-cataract surgery endophthalmitis do occur from time to time. The isolated infections require urgent attention, and with our current knowledge and



management strategies we can save the majority of eyes, if not all.² Endophthalmitis epidemics, on the other hand, are far more serious, it is difficult to determine the source of infection, and hence they are difficult to handle, both medically and legally. In short, these events suggest a major failure of the entire system of patient care and surgery. Undoubtedly it is the primary responsibility of all of us to prevent such incidences, and in the event of an accident, to take every possible measure to determine the source of infection.

The process begins with honest reporting. In past 15 years there are a few reports of post cataract surgery infectious endophthalmitis epidemics in the [English] literature from Thailand,³ Saudi Arabia,⁴ Italy,⁵ Canada,⁶ Turkey,⁷ and the USA.⁸ Reports from India are singularly lacking barring certain stray reports in newspapers of post cataract surgery infectious endophthalmitis leading to blindness in “mass cataract surgical camps”. It is hard to believe that endophthalmitis epidemics do not occur in India. It is more regrettable that isolated reports of contaminated infusion solutions⁹ are not taken seriously either by the pharmaceutical industry or the Government. While the volume of reports represents only the tip of the iceberg, there are even fewer attempts to locate the source of infection. In reported instances the source of infection following cataract surgery has been traced to a defective sterilization system,³ environmental pollution,^{4,8} infected tubings,⁵ contaminated viscoelastics,⁶ and irrigating solutions.⁷ With enough perseverance and with improved microbiological techniques available to us today it would be possible to track the source of infection in many instances.

Infection control and quality assurance should be a continuing effort at any hospital. This begins with honest reporting, assiduous probing, and adoption of appropriate actions. Every hospital must have a dedicated quality assurance team. There has to be a common protocol and standard.¹⁰ This team should have the liberty to implement all corrective

measures to avoid any mishap culminating in human tragedy. There is also great merit in centralized surveillance system¹¹ for region, state, or country. This will help provide a uniform and rational treatment, and also monitor the industry. We all have individual and collective responsibility- the physicians, the hospital management staff, the health personnel, and never the least the drug and device industry.

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Letter to the editor

I must congratulate Dr. (Mrs.) Neela Patwardhan for conducting the scientifically designed comparative study between Benoxinate & Lignocaine as topical anaesthetic agents. It reaffirms that Benoxinate is more ocular-friendly than Lignocaine and should be preferred over Lignocaine as topical anaesthetic agent. Here I would like to mention my own experience with these two topical anaesthetics:

I put a drop of Lignocaine in the patient's eyes, I complete patient's record sheets, assemble/ swing in my tonometer and I still find patient squeezing his eyes to get over with burning sensation. When this burning sensation is apparently over, the patient opens the eyes only to find that the burning sensation reappears and lasts a few more seconds. As against this, when I put a drop of Benoxinate in the patient's eye, I just turn around to pick up the tonometer or swing in the tonometer and I find the patient ready with eyes wide open and comfortable, with hardly any burning sensation.

I feel, Benoxinate eye drops should be more freely available, and of course, not in those glass bottles with leaky droppers but in plastic dispensers. It might also be a good idea to have them in Unit Dose Dispensers, pre-mixed with Fluorescein dye for Applanation Tonometry.

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