



Endophthalmitis Prevention Modalities in Cataract Surgery Practice by Ophthalmologists

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KEYWORDS

Cataract, defined as opacity in the lens, may be caused by multiple mechanisms. Surgery for cataract is statistically the most commonly performed surgical intervention worldwide.

⁽¹⁾ There is an increasing number of cataract surgeries being performed owing to ageing population.⁽²⁾ Although highly effective and relatively safe, owing to the enormous numbers, complications in cataract surgery could cause potential harm.

Endophthalmitis is a devastating eye complication that can occur following an intraocular surgery and every measure should be taken to prevent its occurrence.⁽³⁾ The key lies in prompt diagnosis because the most important aspect of management is early recognition and initiation of therapy. Potential sources of infection are airborne organisms, solutions and medications, human tissue, objects in the operating room or the post-operative environment.⁽⁴⁾

Shedders of pathogenic organisms among theatre personnel should be identified by regular screening and should be promptly treated.⁽⁵⁾ The universal use of KMNO₄ for pre-operative fumigation reflects its effectiveness. Pre-operative eye lash cutting procedure has not been observed to significantly affect the occurrence of endophthalmitis.

There is good evidence for pre-operative preparation of the eye adnexae with povidone iodine and this is reflected in its almost universal use.⁽⁶⁾ Topical betadine instilled pre-operatively in the eye is associated with a reduced percentage occurrence of endophthalmitis.⁽⁷⁾

There has been a shifting trend towards day care surgery in cataract surgery which has resulted in the reduced incidence of nosocomial infections.⁽⁸⁾ Additionally, placing a patch over the eye for at least 4 hours post-op and initiating topical antibiotics from the same day of the surgery has shown to help lower the incidence of endophthalmitis.⁽⁷⁾

Recent attention has focused on wound construction as an important risk factor.⁽⁹⁾ The evidence remains conflicting with epidemiological and experimental studies providing the results and rationale for either increased risk or no change in risk. It has been postulated that the increased use of temporal clear corneal wound may account for an apparent increase in the risk of endophthalmitis as reported in international reports.⁽¹⁰⁾ These results need to be interpreted within the context of the study designs and limitations as a higher number of surgeons tend to use clear corneal incisions, which may cause bias.

Literature supports that a strong, well apposed, non-leaking wound is very effective in preventing contamination.⁽¹¹⁾

The use of intracameral antibiotics has also been observed to be associated with a lower incidence of infection. Likewise, sub-conjunctival antibiotics are preferred by a majority, though the efficacy cannot be conclusively stated.⁽¹²⁾

There has clearly been an evident shift towards phaco-emulsification surgery over other techniques of cataract surgery in the recent times. There has been no conclusive evidence for an association of any specific technique with increased risk for infection.

Intra-operative posterior capsule rupture and anterior vitrectomy are risk factors for acute endophthalmitis. In the event of such complications, close monitoring for early signs of endophthalmitis is required in the early post-operative period.⁽¹¹⁾

To conclude, the incidence rates of endophthalmitis vary amongst surgeons, the technique of surgery and also the various preventive protocols adopted by them.

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