Intraocular lens (IOL) Implantation and Opacification-An Update
Executive Summary

[Adapted from the report by DR JUNAINAH SABIRIN]

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Introduction

According to the 4th Report of the Malaysian National Eye Database 2010, the total number of cataract surgery registered to Cataract Surgery Registry increased from 12,798 in 2002 to 28,506 in 2010. MaHTAS conducted a health technology assessment (HTA) on IOL implantation- hydrophilic acrylic versus hydrophobic acrylic in 2009. The HTA found that many studies reported IOL opacification in hydrophilic acrylic IOL. The HTA recommended a reporting system for eye care professionals to notify any IOL defect that they encounter. Hence, the National Eye Database had established an on-line adverse incident reporting system.

However, since 2009 there has been much change in the type of lens material and combination of types of lens material. Due to evolution in types of lens material, a reassessment needs to be performed to see the safety of these newer lenses and risk for lens opacification, wh ich is a concern. This technology review was conducted following a request from a consultant ophthalmologist and Head of

Objective/Aim

The objective of this systematic review was to assess the safety of IOLs for patients undergoing cataract surgery.

Results and Conclusions

The search strategy yielded 14 articles related to IOL opacification following cataract surgery published in 2009 to present. The studies included consist of five cross sectional studies, three case series and six case reports. None of the studies were on hydrophilic acrylic with hydrophobic coating.

Similar to the previous MaHTAS HTA report findings in 2009, this review found the incidence of IOL opacification after cataract surgery was higher in hydrophilic acrylic IOL compared to other IOL materials (hydrophobic acrylic, PMMA, or silicone) and diabetic patients appeared to be more often affected. The IOL opacification was mainly caused by deposition of calcium and phosphate.

Methods

An updated search was conducted. Electronic databases were searched through the Ovid interface: Ovid MEDLINE® In-process and other Non-indexed citations and Ovid MEDLINE® 1948 to present, EBM Reviews - Cochrane Central Register of Controlled Trials - July 2013, EBM Reviews - Cochrane Database of Systematic Reviews - 2005 to July 2013, EBM Reviews - Health Technology Assessment - 3rd Quarter 2013, EMBASE – 1988 to 2013 week 35. Searches were also run in PubMed. Google was used to search for additional web-based materials and information. The search was limited to publication year from 2009 to current. No other limits were applied. Additional articles were identified from reviewing the references of retrieved articles. Last search was conducted on 9 September 2013.