Povidone iodine causes opacification of silicone intraocular lens implants.

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Abstract

PURPOSE: Four cases of silicone intraocular lens (IOL) opacifications presented at a routine cataract service at a UK district general hospital. A systematic investigation was performed to identify and eliminate the causative factor.

METHODS: An experiment was set up to determine the role of a chemically induced IOL injury. Silicone IOLs were exposed to the various chemical agents used during cataract surgery. One IOL was not exposed to any chemicals and was used as a control. The samples were then photographed with the same camera settings against the same background in a medical photography studio.

RESULTS: All samples photographed using this technique were clear as the unexposed control IOL, except the IOLs that had come into contact with povidone iodine (PI). Exposure to higher concentrations of PI appears to give a greater opacification and staining--a graded effect.

CONCLUSION: While the toxic effects of PI on corneal endothelial health is well recognized, as far as the authors are aware no reports exists on the possible harmful effects of PI on IOLs. The results from the current study suggest that exposure of silicone IOLs to even small volumes of 5% PI can lead to IOL opacifying effects. Further studies are needed to determine the toxic effects of PI on all IOL materials. However, based on the results of our study, we strongly recommend extreme caution in the use of PI as prophylaxis against infection at the conclusion of cataract surgery and recommend great care to ensure complete wound closure.

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