

**Late Postoperative Opacification of Hydrogel
Hydrophilic Acrylic Intraocular Lens , Taipei Medical
University “2004 Academic of Joint Research
Conference” , 2005.**

邱文達

Chien-Liang Wu;Wei-Ting Hung;Hsin-Cheng Lee;Wen-Ta Chiu

Abstract

PURPOSE: To report clinical, pathologic, histochemical, ultrastructural, and spectroscopic analyses of MemoryLens intraocular lenses (IOLs) explanted from patients who had visual disturbances caused by postoperative opacification of the lens optic. DESIGN: Noncomparative, large case series with clinicopathologic correlation. PARTICIPANTS: A total of 106 hydrophilic acrylic IOLs of the same design explanted from 106 different patients. All patients had decreased visual acuity at presentation approximately 2 years after cataract surgery, associated with a whitish fine granularity on the optical surfaces of the IOLs. METHODS: The explanted IOLs were submitted to the John A. Moran Eye Center and were examined under light microscopy, histochemically, and with scanning electron microscopy (SEM) equipped with an energy dispersive x-ray spectroscopy detector with light element capabilities (EDS). MAIN OUTCOME MEASURES: The IOLs were examined for distribution, structure, and composition of the deposits causing opacification of their optic components. RESULTS: The average interval between lens implantation and opacification was 25.8+/-11.9 months. The most frequently associated medical and ophthalmic conditions were diabetes and glaucoma. However, some patients did not have any preexisting medical or ophthalmic conditions. Most of the IOLs had been implanted in 1999 and 2000. Microscopic analyses revealed the presence of multiple fine, granular deposits of variable sizes on the anterior and posterior optic surfaces, especially on the anterior surface. The deposits stained positive for calcium. The EDS confirmed the presence of calcium and phosphate within the deposits. CONCLUSIONS: The results obtained suggest the surface deposits to be composed, at least in part, by calcium and phosphate. A special polishing technique used in the manufacture of most of these IOLs may have caused changes in the lens surface leading to deposit formation. Further studies should be undertaken to confirm this hypothesis.