

Summary

Over the years of 2000 through 2003 I had worked at two Centers of Ophthalmology in USA. During my fellowship at Center for Research on Ocular Therapeutics and Biodevices, Storm Eye Institute, Medical University of South Carolina, Charleston, South Carolina and at John A. Moran Eye Center University of Utah, Salt Lake City, Utah, I had worked as a member of Apple Korps team on the analyses of four various hydrophilic acrylic intraocular lenses (Hydroview H60M, SC60B-OUV, Aqua Sense and MemoryLens). These explanted IOLs were sent to our Centers from the Ophthalmology Clinics from all over the world due to their opacification. Since the year 2005, after my return from the USA, as an ophthalmologist of Eye Clinic F.D. Roosevelt Hospital, Postgraduate Medical School in Banska Bystrica, I continued working on the analyses of explanted IOLs in close cooperation with above specified US Centers as well as with at the time freshly established European Center BERI in Berlin. Analyses of 7 opacified IOLs (3 MemoryLens, 1 Aqua Sense, 1 Sofcyl, 1 Oculentis and 1 Acrysof) was performed at the Eye Clinic in Banska Bystrica.

Using examination methods (such as gross macroscopic and microscopic analyses, histochemical staining using Alizarin red and von Kossa method, Scanning electron microscopy –SEM and Electron dispersive spectroscopy - EDS) we have proved, that the opacification of analyzed IOLs was caused by deposits of calcium and phosphates.