

Comment on “A case of hypermature cataract formation following implantation of an implantable collamer lens with an Aquaport”

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Dear Editor,

With regard to the recent report published in your journal, “A case of hypermature cataract formation following implantation of an implantable collamer lens with an Aquaport”^[1]: the authors suggest that a case of early onset, rapidly progressive cataract following implantation of a posterior chamber phakic refractive lens with a central port (ICL EVO with KS-Aquaport, STAAR Surgical, Monrovia, CA, USA) was due to rapid or altered flow of aqueous fluid through a decentered Aquaport leading to an inflammatory reaction. The authors apparently rule out surgical trauma as a causative factor because the “medical records showed no intraoperative complications” and no perforation of the lens capsule was observed with indocyanine green (ICG) staining. Early onset cataract during the first months after implantable collamer lens (ICL) implantation with or without the central port is uniformly regarded as being due to surgical trauma^[2], while cataract due to insufficient vault occurs much later, generally after one year, in the postoperative course^[3]. The observation that there was no frank penetration of the lens capsule does not rule out surgical trauma; blunt trauma to the lens can result in anterior subcapsular cataract^[4], as well as progression to phacolytic glaucoma^[5]. The anterior chamber reaction present in the eye is indicative of a phacolytic process, which also explains the deposits on the ICL, while the inferior decentration and progressive rotation of the ICL which the authors describe suggest that the surgical trauma may have extended to the inferior zonular fibers as well as the lens. Unfortunately, the authors do not report the intraocular pressure, so phacolytic glaucoma remains a possibility.

The only remaining obstacle to a diagnosis of surgically-induced cataract is the medical record, which I do not find insurmountable evidence. It does not appear reasonable to invoke hitherto undescribed phenomena such as inflammation due to altered aqueous flow, as this argument is not supported by the referenced literature: Shiratani *et al*^[6] showed that the central port was preventative of cataracts in an animal model, and Fernandes *et al*^[7] discussed insufficient vault as a risk factor for cataract in lens models without the central port (their review was published before the newer model with the central port became available).

In summary, this case represents cataract due to surgical trauma at the time of ICL implantation unless proven otherwise. A video of the operation would be most instructive.

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