Cystoid Macular Edema after Cataract Extraction in eyes with Previous Macular Surgery

Sneha Padidam, MD
Washington, DC
George Skopis, MD, Michael M Lai, MD, PhD

Purpose:
To determine the prevalence and risk factors for cystoid macular edema (CME) after cataract surgery in eyes that have previously undergone macular surgery.

Methods:
This is a retrospective consecutive interventional case series of eyes that underwent vitrectomy for full thickness macular hole (FTMH), lamellar macular hole (LMH) or macular pucker (MP) and subsequent cataract surgery. CME was defined as cystic changes noted on Spectral Domain Optical Coherence Tomography (SD-OCT) with an increase in central macular thickness (CMT) of at least 20 microns. The primary outcome measure was the prevalence of CME post cataract surgery. The secondary outcomes studied were potential risk factors associated with the development of CME. Exclusion criteria included pre-existing macular disease and previous pars plana vitrectomy.

Results:
Two hundred forty-three eyes met inclusion and exclusion criteria. Of these eyes, 135 had macular pucker, 96 had full thickness macular hole and 12 had lamellar macular hole. 9.1% of eyes (n=22) developed CME post cataract surgery. The mean time from macular surgery to cataract surgery was 273 days (range:87-797) in eyes with CME and 289 days (range:22-897) in eyes without CME (p=0.67). The increase in CMT was 96 microns in eyes with CME and 3.7 microns in eyes without CME (p=0.0001). There was no difference in final visual acuity between eyes with CME (20/40, logMAR 0.312) and without CME (20/30, logMAR 0.206) (p = 0.101). Of the 22 patients with CME, 17 patients underwent surgery for MP and 5 underwent surgery for FTMH/LMH. Of the 221 patients without CME, 118 had surgery for MP and 103 had surgery for FTMH/LMH. Compared to patients with FTMH or LMH, patients with macular pucker were more likely to develop post-cataract CME (OR=2.97, p=0.031, Chi square test).

Conclusions:
In eyes with history of macular surgery, the prevalence of post cataract surgery CME was around 9.1%. The development of CME is not dependent on timing of cataract surgery but is more common in eyes with history of macular pucker. There was no statistically significant difference in final visual outcome between eyes with and without CME.