Diamond Dust Particles Seen on Intraoperative Oct

Neesurg Mehta, MD, Glenn Yiu*, MD, PhD

Department of Ophthalmology & Vision Science, University of California, Davis. USA

***Corresponding author**

Glenn Yiu, Department of Ophthalmology & Vision Science, University of California, Davis. USA. E-mail: gyiu@ucdavis.edu

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A 68-year-old female with a full-thickness macular hole in the right eye was referred for surgical repair. The patient underwent pars plana vitrectomy with internal limiting membrane (ILM) peeling and intraocular gas injection. During the surgery, the ILM was stained using Brilliant Blue G solution, elevated using a diamond-dusted membrane scraper, and removed using vitreoretinal forceps. After ILM removal, white refractile particles (arrow) likely corresponding to diamond dust particles were noted on the retinal surface (panel A), and appeared hyperreflective on intraoperative optical coherence tomography (iOCT; panel B). Attempts at aspirating these particles were unsuccessful. Diamond dust particles have been described postoperatively on OCT in epiretinal, intraretinal and subretinal regions, with no effect on visual acuity or retinal structure up to 1 year [1,2,3,4]. Here, we show that iOCT can also be valuable in identifying the presence and location of diamond dust particles intraoperatively during vitreoretinal surgery [3].

Figure 1: iOCT showing an epiretinal diamond dust particle

- a) Intraoperative fundus image showing white refractile particles (arrow) temporal to the area of internal limiting membrane removal (arrowheads) surrounding the macular hole (asterisk), and
b) Intraoperative optical coherence tomography (iOCT) image showing the hyperreflective particle on the retinal surface.

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