

What is the effect of removing a cataract in AMD patients?

Session Details

Session Title: [Cataract Surgery Special Cases](#)

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Venue: Meeting Center Room I

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Abstract Details

Purpose:

Both the increase of intraocular scattering due to cataracts and the reduction of central foveal vision associated with age-related macular degeneration (AMD) may occur with aging and are often developed simultaneously. In the clinical practice is very common to face the question if a cataract surgery would be beneficial in a patient with AMD. To better understand this issue, we have performed a study to characterize the impact of induced scatter in the quality of vision in the near periphery, where functional areas of the retina are usually still present in patients with AMD.

Setting:

Laboratorio de Optica, Universidad de Murcia, Spain

Methods:

We used an experimental system to simulate cataracts based in projecting at the eye's pupil plane phase masks with controlled spatial properties generated with a liquid crystal on silicon spatial light modulator. We induced controlled amount of scatter ranging from that present in the normal aging eye to advanced cataract stages. Visual Acuity (VA) and Contrast Sensitivity (CS) at 3 cycles per degree were measured at the fovea and two retinal eccentricities: 5 and 10 degrees in the nasal visual field. The measurements were performed in the dominant eye of a group of ten normal subjects.

Results:

There was a linear decrease of the measured VA for increasing amounts of induced scatter both at the fovea and

periphery. However, at the fovea the impact of scatter in vision was much higher. The same amount of scatter (i.e., cataract) reduced VA in the fovea from -0.1 to 0.4 LogMAR and in the near periphery from 0.8 to 0.95 LogMAR. A similar qualitative behavior was found for contrast sensitivity.

Conclusions:

We found a lower impact of scatter in the periphery than in the central retina. This indicates that after the cataractous lens is removed, the benefit in VA in AMD patients will be low, explaining the modest improvement in vision often found after cataract surgery in patients with AMD. This may suggest that IOLs specially designed for AMD patients should include additional features to complement the reduction of scatter and provide better quality of vision to these patients.

Financial

Disclosure:

NONE