

ABSTRACT TITLE

TITLE: Influence of Pupil Diameter on Intraocular Scattering Measurements Based on Double Pass Images in Patients with Different Types of Cataracts

PROGRAM # (Final ID)

ABSTRACT FINAL ID: 828 - B0052

SESSION TYPE: Poster Session

POSTER BOARD # (DOI)

DIGITAL OBJECT IDENTIFIER (DOI): B0052

PRESENTATION START/END

SESSION ABSTRACT START TIME: 1:00 PM

SESSION ABSTRACT END TIME: 2:45 PM

SESSION # (Abbreviation)

SESSION ABBREVIATION: 136

SESSION TITLE: IOL and Crystalline lens

SESSION DAY & DATE: Sunday, May 5, 2013

SESSION START TIME: 1:00 PM

SESSION END TIME: 2:45 PM

AUTHORS (LAST NAME, FIRST NAME): Pujol, Jaume¹; Ondategui Parra, Juan Carlos²; Martinez-Roda, Joan A.²; Vilaseca, Meritxell¹; Asaad Ammaar, Mouafk³

INSTITUTIONS (ALL): 1. Centre for Sensors, Instruments and Systems Development (CD6), Universitat Politècnica Catalunya, Terrassa, Spain.
2. University Vision Center (CUV), Universitat Politècnica Catalunya (UPC), Terrassa, Spain.
3. Ophthalmology, Hospital de Terrassa, Terrassa, Spain.

Study Group:

ABSTRACT BODY:

Purpose: To assess the influence of pupil diameter size on intraocular scattering measurements

obtained from double pass images in patients with different type of cataracts.

Methods: Intraocular scattering was measured using a comercial double-pass system (Optical Quality Analysis System, OQAS, Visiometrics, Spain) (Güell et al. J Cataract Refr Surg 2004) and quantified using Objective Scattering Index (OSI)(Artal et al. Plos one 2011; Vilaseca et al Br. J. Ophthalmol. 2012) in four groups of patients with cataracts (nuclear (NC), cortical (CC), posterior subcapsular (PSC) and cortical-nuclear mixed (CNMC)). Cataracts were classified using a LOCS III system. Measurements were performed using two different pupil diameters: 4mm (with and without cycloplegic drops) and 7mm (with cycloplegic drops), which were obtained using the artificial pupil of OQAS system.

Results: 56,5% of the subjects were female where 48 eyes (of 55 patients with cataracts). Cataract classification showed: 29 NC, 12 PSC; 18 SPC and 26 CNMC). Mean ages (\pm SD [range]) were of 68.3 ± 8.20 (47 to 85 yr.) There are not differences in OSI values obtained for a pupil diameter of 4 mm either with or without cyclopegia. The correlations between OSI (4mm) and OSI (7mm) using cyclopegia were: NC $r=0.804$ ($p=0.00$); PSC $r=0.608$ ($p=0.07$); CC $r=0.957$ ($p=0.00$) and CNMC $r=0.769$ ($p=0.00$). OSI parameter showed a high correlation between both pupil diameters. Mean \pm SD OSI results for 4mm and 7mm pupil were: NC $3.7\pm 2.2 / 6.0\pm 3.4$; PSC $3.1\pm 1.7 / 4.8\pm 2.0$; CC $3.5\pm 2.3 / 6.3\pm 3.8$ and CNMC $5.0\pm 3.4 / 7.4\pm 3.5$. All OSI values presented a proportional increase for each type of cataracts. Similar changes were obtained considering the classification according LOCSIII system. The increase in OSI values (lower in PSC and higher in CC) probably can be due to the peripheral distribution of cataract in CC and to the central lens opacity on PSC.

Conclusions: OSI results increase when pupil diameter is higher, but we have not found difference to classify different types of cataracts. We can conclude that OSI parameter provides useful information to classify cataracts regardless of pupil diameter. Future work will be focused on a larger number of patients with cortical and subcapsular cataracts.

(No Image Selected)

Commercial Relationship(s) Disclosure:

Jaume Pujol: Commercial Relationship(s);Visiometrics:Code P (Patent)

Juan Carlos Ondategui Parra: Commercial Relationship: Code N (No Commercial Relationship)

Joan Martinez-Roda: Commercial Relationship: Code N (No Commercial Relationship)

Meritxell Vilaseca: Commercial Relationship: Code N (No Commercial Relationship)

Mouafk Asaad Ammaar: Commercial Relationship: Code N (No Commercial Relationship)

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