Impact of axial length and preoperative intraocular pressure on postoperative intraocular pressure changes in non-glaucomatous eyes following phaco-emulsification in a University Hospital, Riyadh, Saudi Arabia

Norah A Musallam¹, Noor M Al Anazi², Abdurahman M Al Muammar³ and Essam Osman⁴
¹King Saud University, Saudi Arabia
²King Abdul-Aziz University Hospital, Saudi Arabia

Purpose: To evaluate the changes of intraocular pressure (IOP) in non-glaucomatous eyes following phaco-emulsification among patient groups with different axial lengths (AL).

Method: Within a retrospective study design, medical records of cataract patients operated on between 2000 and 2010 at the Department of Ophthalmology, King Abdul-Aziz University Hospital (KAUH), Riyadh, Saudi Arabia were reviewed. Cases were identified as having an ocular AL >24 mm, <22mm and a normal group of AL range; 22-24 mm. The relationship between IOP changes and AL was evaluated for all patients fulfilling the inclusion criteria.

Results: Among the reviewers at KAUH, 507 eyes of 229 cataract patients were included in our study. The mean age was 61.8±10.5. Males slightly exceeded females with similar OD to OS ratio. Of all study group the average IOP baseline was 14.5 mmHg, which significantly decreased to 13.8 mmHg following phaco-emulsification (p<0.001). Moreover, a significant reduction was noticed among normal AL group (22-24 mm), the IOP reduced from preoperative value of 14.4 to 13.6, (p=0.001). Furthermore, eyes with longer AL >24 mm showed a significant reduction (p=0.003). However, among the shorter AL group (<22 mm), postoperative IOP was significantly raised from preoperative value of 13.7 to 14.4, (p=0.230). Univariate analysis, high preoperative IOP >21mmHg (p=0.006) and long AL (p=0.021) were significantly associated with higher IOP reduction.

Conclusion: The reduction in IOP following phaco-emulsification positively correlates to higher preoperative IOP. The axial length was significantly associated with postoperative IOP changes, where normal and longer AL groups showed a major reduction in postoperative IOP. However, the study found that shorter AL group had a significant raise in postoperative IOP.

Biography
Norah A Musallam is a fifth year Medical student of a five-year program at King Saud University (KSU) School of Medicine, Riyadh, Saudi Arabia. She’s a member in Ophthalmology Interest Group at KSU.

noura.ahmedm@hotmail.com

Notes: