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Sphincterotomy for small pupil in cataract surgery

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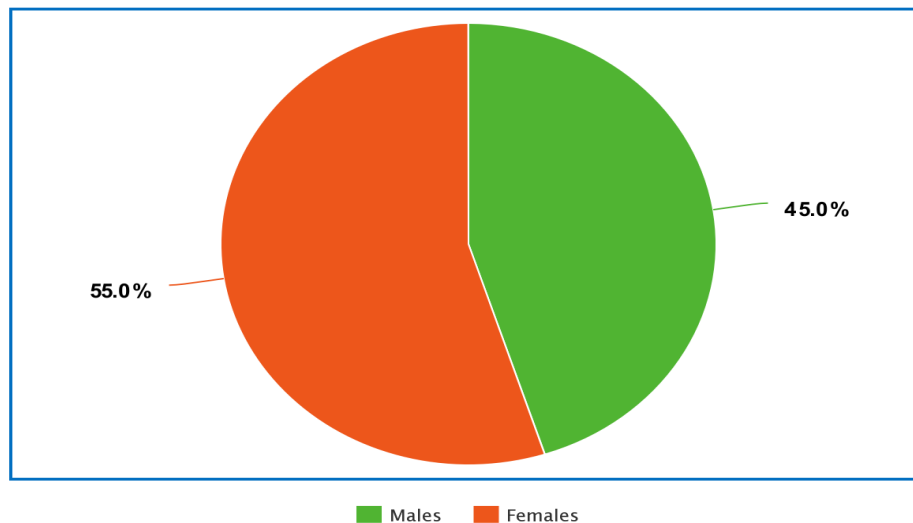
- ▶ **Purpose:** Sphincterotomy is a technique used to enlarge the pupil size intraoperatively in the phacoemulsification procedure . The potential complications of the sphincterotomy procedure were examined and are going to be discussed along with a statistical study of the number of the patients and the average size of the pupil measured after mydriasis, that required sphincterotomy.
- ▶ **Method :** We conducted a retrospective review of 753 patients with cataract that underwent cataract surgery between January 2022 and December 2022. The pupil size was evaluated after maximal dilatation by instillation of phenylephrine 5% and tropicamide 1% drops administered 3 times at 5 minute intervals starting 1 hour before surgery. Vanas capsulotomy scissors were used to perform 6-7 small cuts to the iris. The best corrected visual acuity (BCVA) and the intraocular pressure (IOP) were measured pre and post-op.



Image 1:Sphincterotomy procedure using the Vanas capsulotomy scissor.

- ▶ **Results:** A total of 828 eyes of 753 patients, 414 women and 339 men (55% and 45% respectively) were included in this study. The mean age was $76,4 \pm 9,11$ years. A total of 16 eyes underwent sphincterotomy. The mean pupil size on which sphincterotomy was performed was 4 mm. The BCVA best corrected visual acuity pre-op was 0.2 and post-op was 0.8 (Snellen). The mean IOP pre-op was 15 mmHg and post-op. From the 16 cases 2 had PEX. All patients had uncomplicated surgery and there was no incidence of intra-ocular hypertension post-op.

Parameters	Pre-op	Post-op
IOP	15 mmHg	13mmHg
BCVA	0.2	0.8



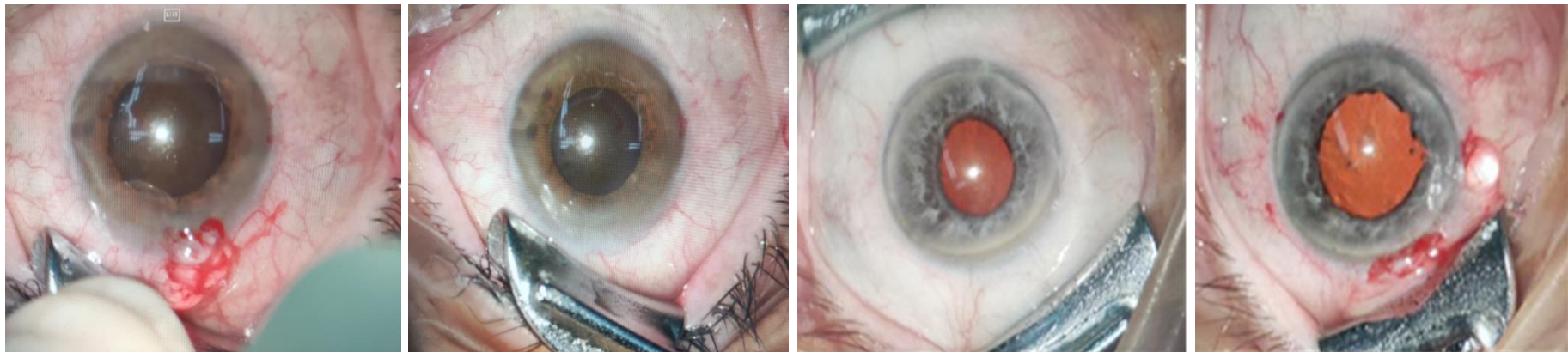


Image 2:Pupil size before and after sphincterotomy procedure.

Conclusions:The Sphincterotomy used in this study was effective for the mechanical dilatation of small pupil. The incidence of post-operative complications following uncomplicated phacoemulsification with pupillary sphincterotomy is low. Lastly, one negative of the procedure is that the iris does not retain its circular shape post-op.