



Dilating Pupil During Cataract IOL Surgery

E Poster 3951

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There is no financial relationship with any person(s) or organization for this paper

Why a Well Dilated Pupil for Cataract Surgery

- Surgical safety.
- Comfort level of the surgeon.
- Better visualization of the ocular structures.
- Precise intraocular manipulation.
- Safe Outcome and Happy Patient

Basics of the Technique

- Parasympathetic stimulation of pupillary sphincter causes pupil to constrict.
- By irrigating lignocaine into anterior chamber this is paralyzed..
- Sympathetic stimulation of pupil dilator muscle is responsible for pupil dilation.
- A dilute adrenaline solution stimulates the pupil dilator muscle of iris to dilate the pupil.

Objective / Setting

- To evaluate the sequential use, safety and the appropriate technique of using intra-cameral lignocaine and diluted 1:1000 epinephrine to dilate the pupil for cataract and intraocular lens (IOL) implant surgery.
- This observational and interventional study was conducted at the Department of Ophthalmology at Saudi German Hospitals Group – Riyadh.

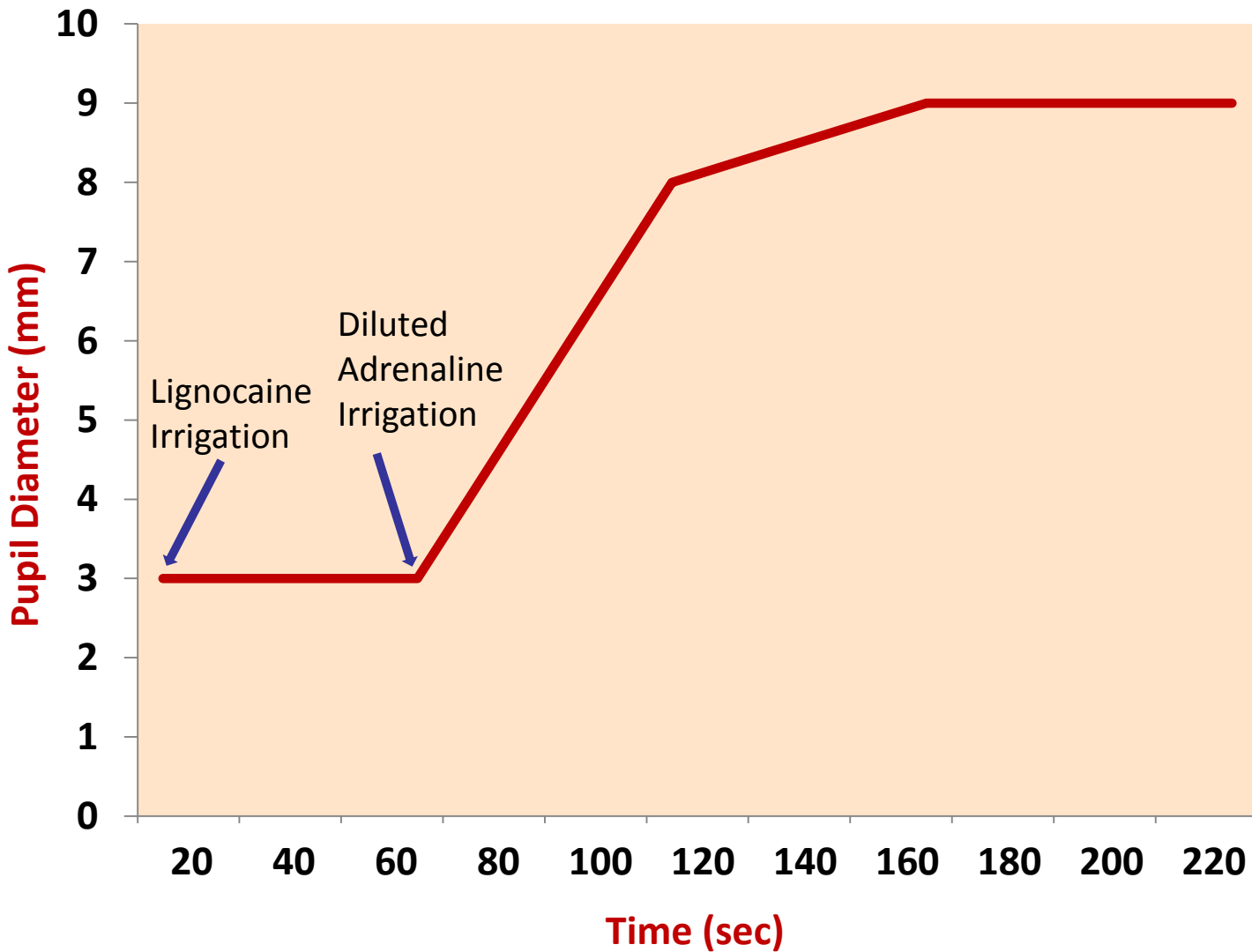
Patients & Methods

- A total of 50 patients, both male and female were included in this study.
- All the patient underwent a complete systemic and ophthalmic evaluation and consent before planning the procedure.
- Lignocain 1% PBF was irrigated into the anterior chamber and after a waiting period of 60 seconds, a dilute solution of adrenaline was irrigated.
- In a short duration of 60 seconds the pupil dilated to its full potential.

Results

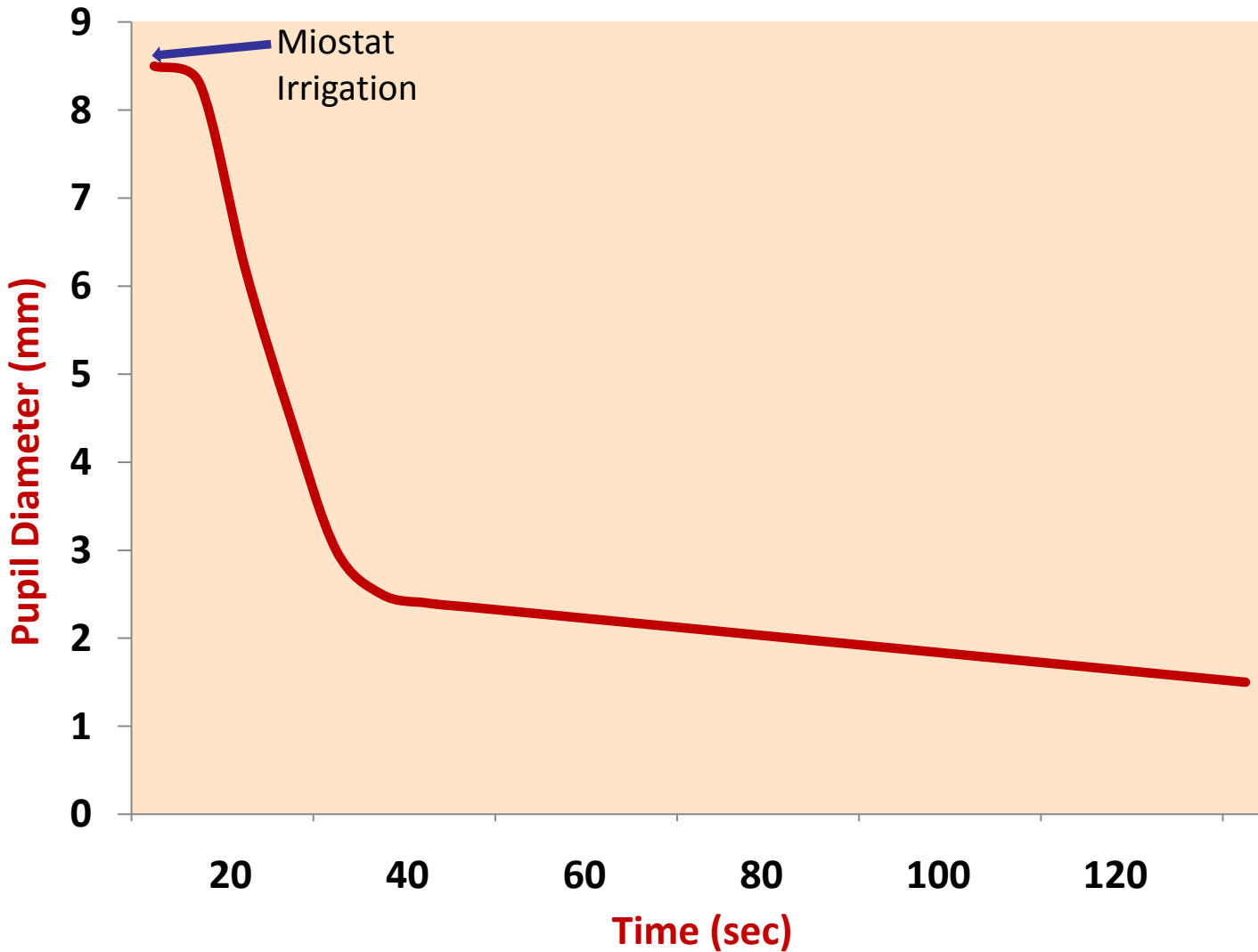
- The pupil remained dilated throughout the procedure in 85 % of the cases, however, in 15% of the cases there was a need to repeat the regimen.
- Not only it provides good pupil dilation, it also gives good intraocular anesthesia and also prevents intraocular bleeding.
- It appears to be safe in patients having hypertension, diabetes mellitus, Idiopathic floppy iris syndrome, etc. as patients with these comorbid conditions are difficult to dilate.

Time to Dilatation



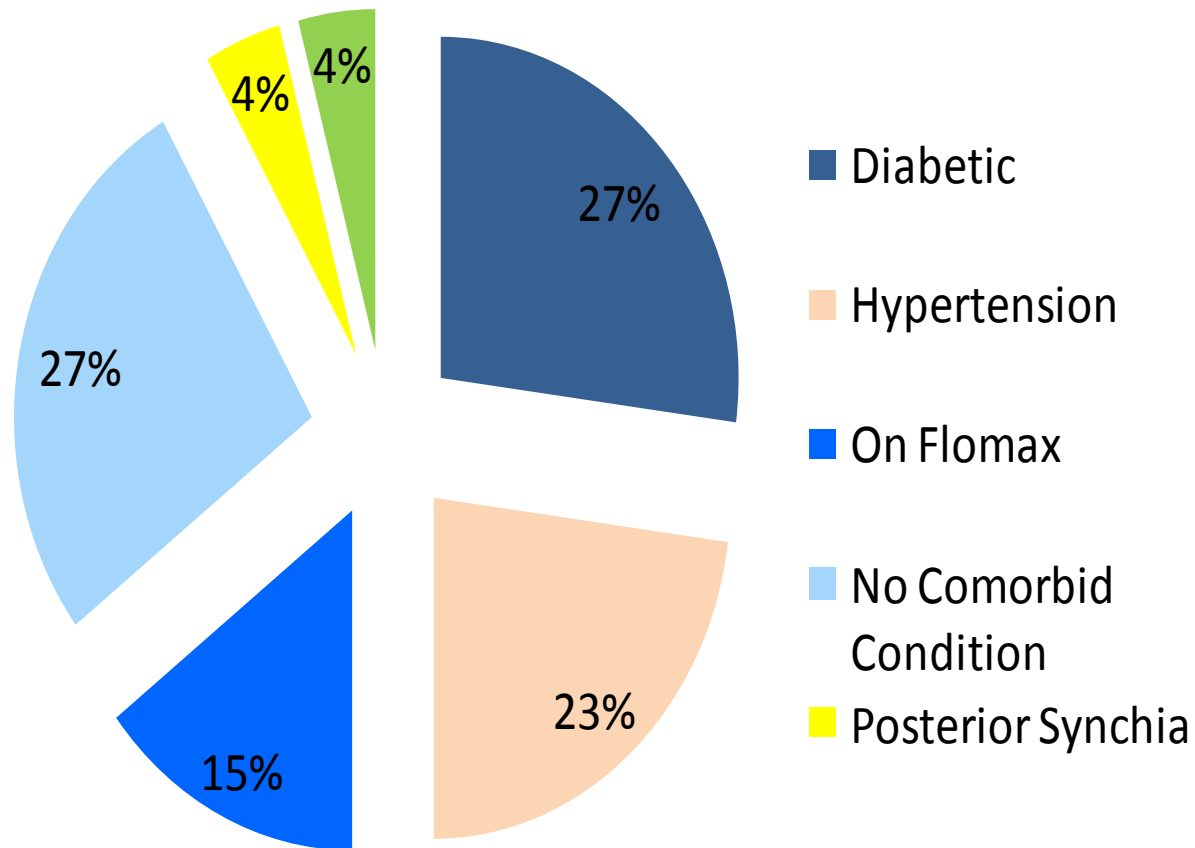
Response to Sequential Use of Lignocaine and Diluted Adrenaline Solution

Time to Constrict

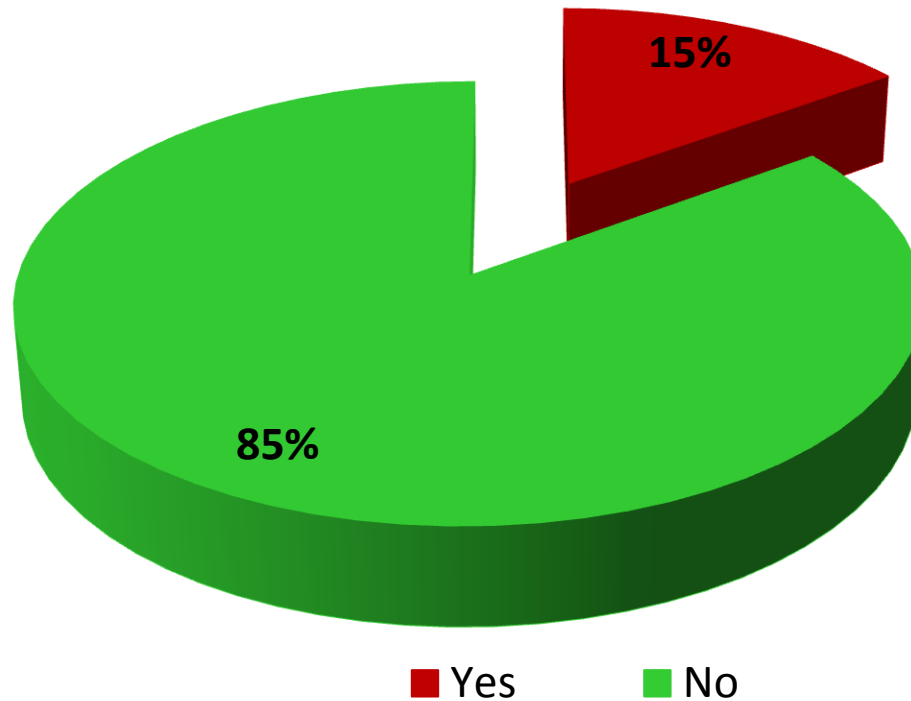


Pupil Constriction in Response to Miostat Irrigation in the Anterior Chamber

Comorbid Conditions



Need to Repeat



Points to Remember

- Use proper concentration of the irrigation solution
- Wait 60 seconds after irrigation of lignocaine is MUST and then irrigate dilute adrenaline solution into the anterior chamber
- Premature adrenaline irrigation after lignocaine will / may not result in the desired pupil dilation.
- Eyes with lighter iris color are more responsive to this technique

Conclusion

- This technique of dilating pupil for cataract IOL implant surgery appears to be a valuable, safe and easily reversible technique in addition to the already existing methods of pupil dilation for intraocular surgical procedures mainly cataract surgery and may be for vitreoretinal procedures which need a good pupil dilation during the surgery.