Can SLT safely delay surgery in pre-surgical primary open angle glaucoma?

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Purpose

- Selective laser trabeculoplasty (SLT) has been widely used as both a primary and adjunct treatment in glaucoma.[1]
- Glaucoma surgeries were significantly affected during the Covid-19 pandemic due to reduced theatre and clinic capacity.[2]
- We looked at SLT as a temporary alternative to safely delay surgical intervention in "pre-surgical" primary open angle glaucoma (POAG).[3]

Methods

- This is a retrospective study that included 104 patients who had a diagnosis of POAG and received SLT treatment, with at least 1 year follow-up.
- Primary outcomes were reduction in intraocular pressure (IOP), and number of glaucoma medications (NGM).
- The endpoint was defined as time to be listed for glaucoma surgery.
- All eyes who had progressive or advanced visual fields and were on 2 or more medications were included.
- Eyes with previous glaucoma filtration surgery or argon laser trabeculoplasty, diagnosed with normal tension glaucoma or had significant angle closure disease (peripheral anterior synechiae>180) were excluded.

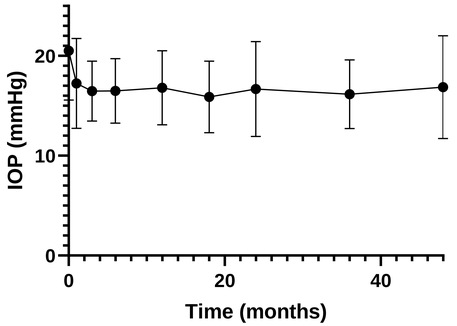


Figure 1: Intra-ocular pressure reduction

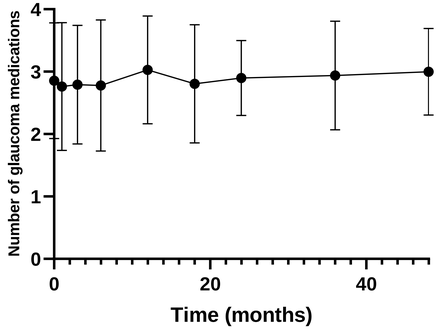


Figure 2: Number of glaucoma medications

Results

- The mean patient age was 73.4 ± 12.2 years.
- At baseline, the mean IOP and NGM were 20.5 ± 4.9 and 2.8 ± 0.9 mmHg, respectively.
- At 12 months, the mean IOP was 16.5 ± 3.3 mmHg and the NGM was 2.7 ± 1.0.
- The IOP reduction was 3.7 ± 5.8 mmHg (14.5%, $p<0.01$) at 12 months follow-up.
- At 24 months follow-up, the IOP reduction was 3.4 ± 4.7 mmHg (15.5%, $p<0.01$).
- At 36 months follow-up, the IOP reduction was 3.8 ± 5.3 mmHg (15.5%, $p<0.01$)
- At 48 months follow-up, the IOP reduction was 2.5 ± 5.9 mmHg (10.1%, $p=0.04$)
- No surgical intervention was needed in 96% of eyes within the first year of SLT.
- There was no significant difference in the NGM pre- and post- SLT.

Conclusion

- With the current pandemic limiting the surgical capacities of eye hospitals, SLT can safely delay the need for glaucoma surgery for at least 1 year by reducing the IOP.
- This is particularly apparent in elderly patients or those poorly compliant to medical therapy.
- In addition, this could increase ophthalmology clinic capacity by reducing the number of post-operative follow ups.

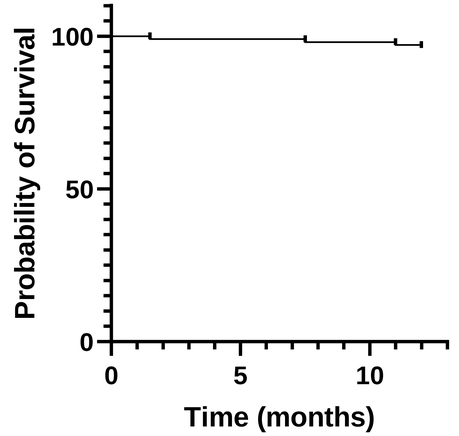


Figure 3: Kaplan-Meier curve showing 96% survival at 12 months follow-up.

Disclosure: There was no funding received for this study. Hisham Hamze, Manpreet Johal, Shivam Sharma and, Abhijit Mohite have nothing to disclose.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Royal Wolverhampton NHS Trust and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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