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Results of 18 months follow up of Ab Interno XEN gel Implants For Glaucoma

M Radwan
C Dimitriou
S Nicolaou
B Bhatia

Introduction

The XEN gel implant (Allergan) is a minimally invasive glaucoma surgery (MIGS) device,

It lowers intraocular pressure by creating a direct connection between the anterior chamber and the subconjuctival space

The XEN device is being used in many surgical centres and is gaining popularity as another treatment option for glaucoma.

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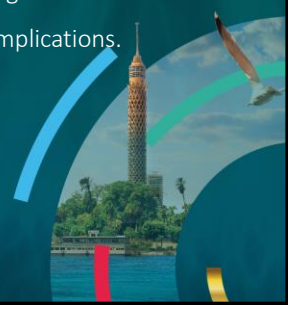
Method

- This retrospective case note review aims to evaluate the effectiveness of XEN gel implants for glaucoma at a single surgical centre (Colchester Hospital, UK).
- More specifically it seeks to analyse: the drop in intraocular pressure (IOP) achieved by the XEN implant over time, the change in treatment for patients after implantation and the post-operative complications.



- This was a retrospective case note review of patients who underwent ab interno gel XEN implantation under one glaucoma consultant at one district general hospital from June 2016 to December 2017

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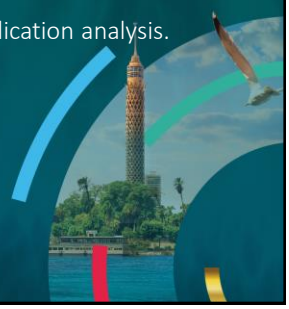
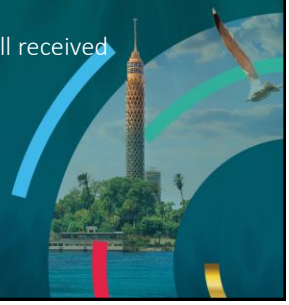
- Data was collected on age, gender, glaucoma type, XEN implantation with or without simultaneous cataract extraction, complications, post-operative IOP change and post-operative change in medication.
- Data was recorded in Microsoft Excel and analysed using SPSS. Analysis was performed using the student's t-test for changes in IOP and the Wilcoxon signed-rank test was used for change in medication analysis.



Results

- In total 86 surgical operations were identified during the sample period. The mean age was 75 years (range 37-96 years).
- Right eyes accounted for 55% (47) and left 45% (39).
- The majority of the procedures were combined Phaco+XEN 57% (49 patients), the rest being solo XEN procedures, 43% (37).
- Various types of glaucoma were included. (*Table 1*). All received perioperative mitomycin C (MMC).



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Glaucoma type	Number of eyes
Aphakic	1
Fuchs Heterochromic	1
Juvenile Open angle	1
Normal tension	11
Neovascular	3
Angle closure	12
Pigmentary	3
Pseudoexfoliative	3
Primary open angle	45
Secondary open angle	6

IOP and drop number reduction

- Pre-operative IOP dropped from 18.7mmHg to 6.3mmHg on day 1, 9.7mmHg at 1 week, 12.1mmHg at 1 month, 12.7mmHg at 3months, 13.1mmHg at 6 months, 13.7 at 9 months, 13.5mmHg at 12 months, 14.5mmHg at 18 months and 13.2mmHg at 24 months.
- Treatment burden dropped from 2.9 agents to 0.88 at 9 months, 1.17 at 12 months, 1.27 at 18 months and 1.8 at 24 months.
- All significant at the $p<0.05$ level

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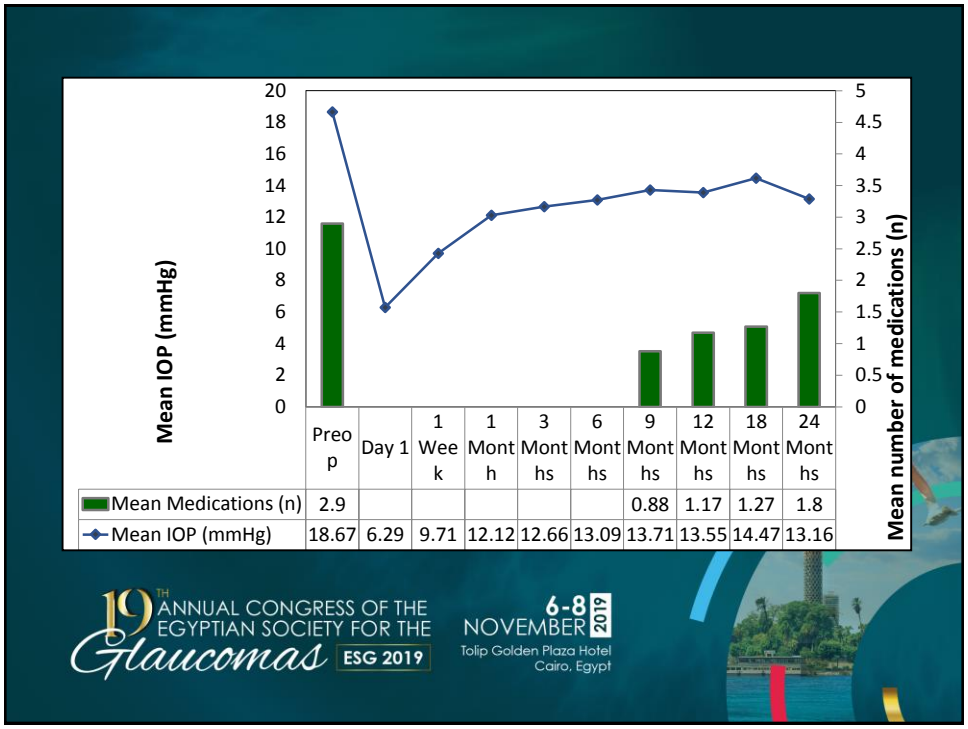

Complication	Occurrence (%)
Hyphaema	5%
Hypotony with maculopathy	3%
Cyclodialysis	1%
Vitreous haemorrhage	1%
Needling required	18%
Further glaucoma procedures: trabeculectomy, repeat XEN or other filtration devices	7%

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Discussion

- The results suggest that the XEN implant is relatively safe and effective at significantly lowering IOP in a variety of glaucoma types, at least up to 24 months.
- Additionally the XEN implant appears to significantly lower treatment burden for the patient.
- The results are comparable to other larger studies, both in terms of outcome and safety .

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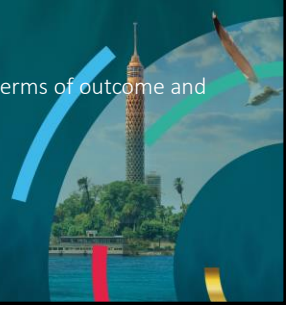

Limitations

- This case note review had several limitations including the nature of the retrospective review and the low patient numbers included, particularly in the longer period analysis.
- One other major limitation was the non-separation of the Phaco+XEN and the solo XEN groups for the main analysis, as the act of removing the cataract itself reduces intraocular pressure.

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Thoughts….

- Despite these limitations, the results do suggest that the XEN gel implant can have some success in aiding the treatment of glaucoma. Longer follow-up is needed to evaluate the prolonged effects and safety profile of the implant.

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Thank you

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