

# **Safety and efficacy of GATT procedure in the management of PCG in the Egyptian population**

**Nada M. GabAllah, Merna M. Hossameldin, AbdElhamid S. Elhofi**

By: Nada Medhat GabAllah Mohamed  
MDPhD, FRCOphth, MRCSed Ophth, MSc  
Lecturer of Ophthalmology  
Alexandria University, Egypt

# Introduction

- PCG is a type of childhood glaucoma that occurs in the **first three years of life**.
- No known systemic and other ocular associations.
- Characterized by **Trabeculodysgenesis** causing impaired aqueous drainage and increase of IOP.
- Incidence of PCG ranges from **1: 10,000 to 1: 18,000** live births in the **Western World**, but, it is even more common in communities with higher rates of consanguinity, reportedly **1: 2500** in the **Middle East**.



# Introduction

- Surgical management is the first line treatment.
- Eyedrops carry the risk of systemic side effects and difficult to maintain for life.
- Surgical solutions comprise of:
  - Angle surgeries (Goniotomy, ab-externo trabeculotomy, GATT)
  - Filtering surgeries (Trabeculectomy)
  - Combined procedures (combined trabeculotomy-trabeculectomy)
- GATT necessitates a **clear cornea** to be able to visualize the angle structures.



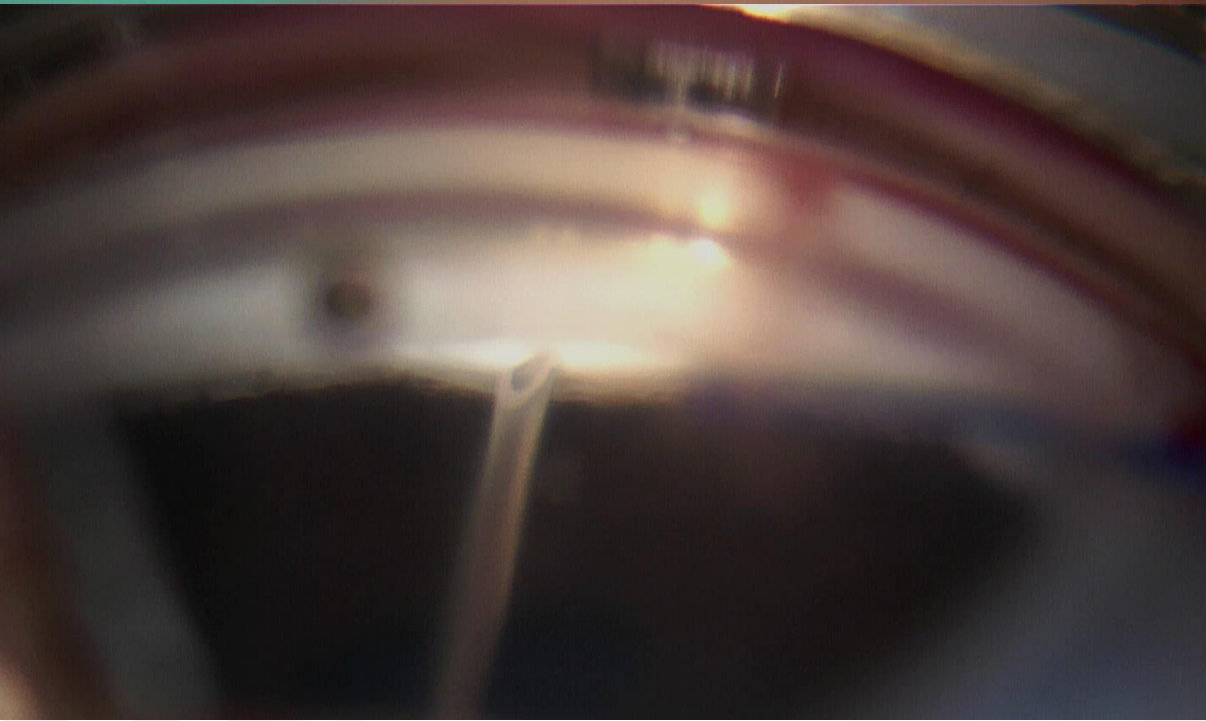
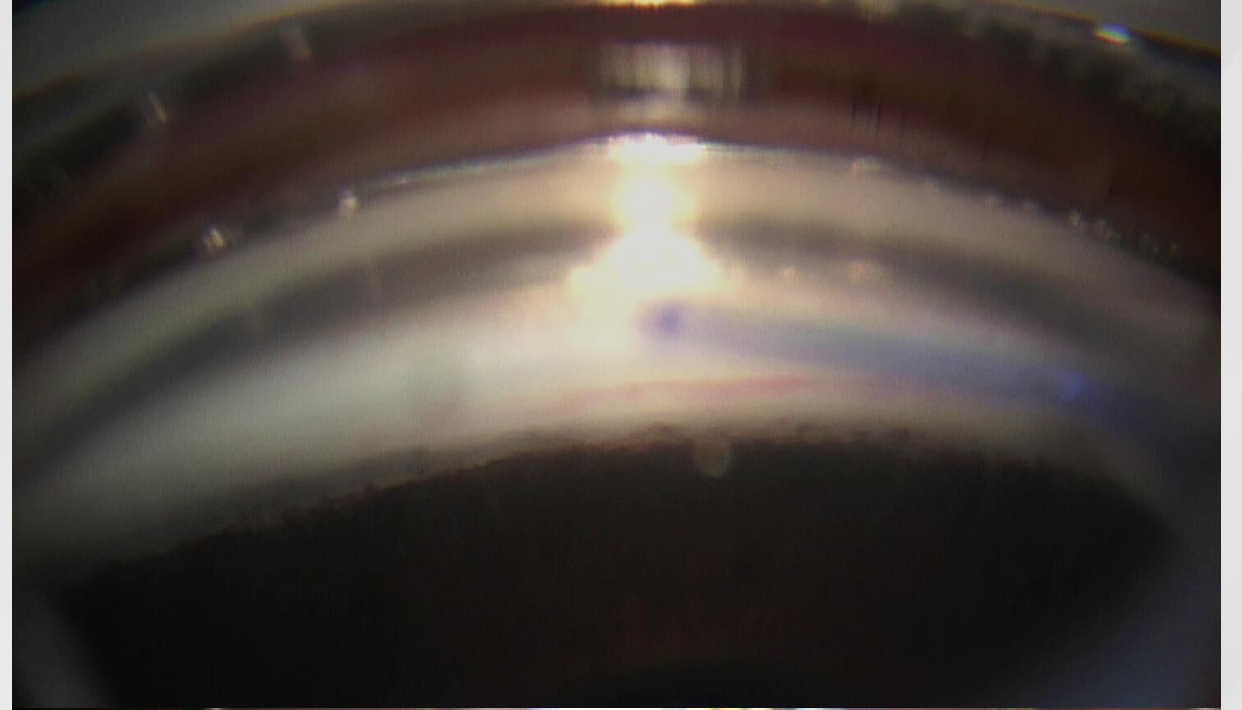
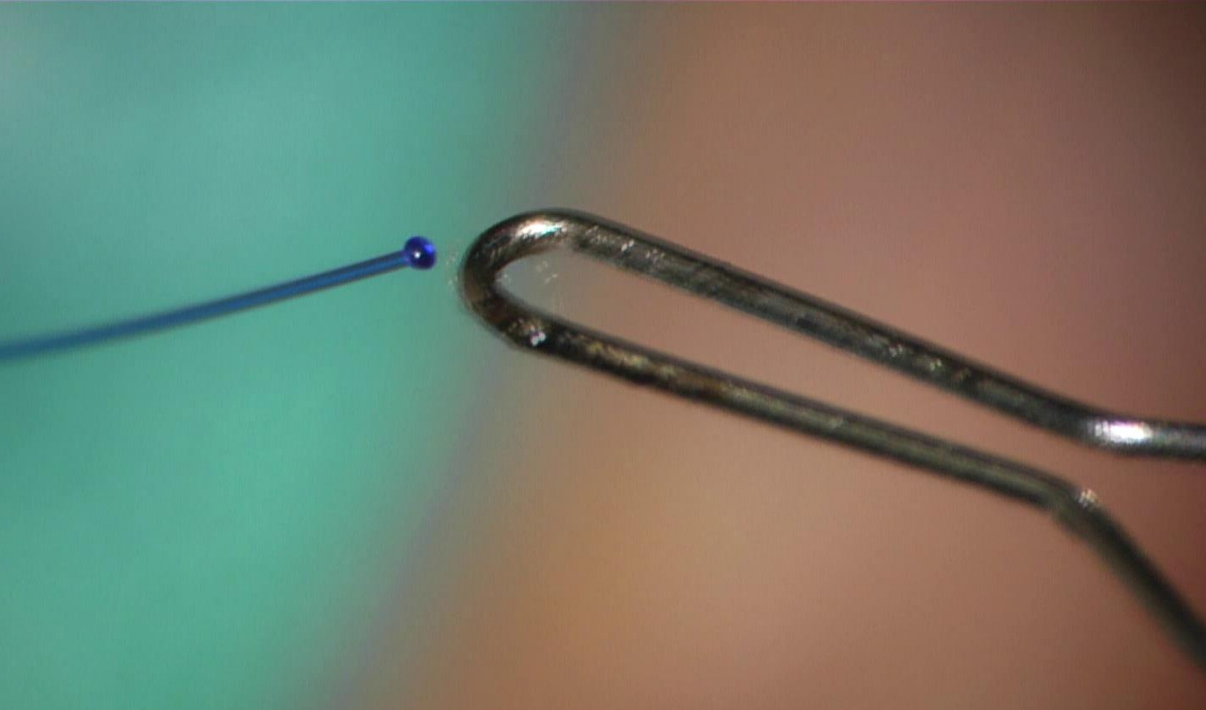
# Aim of our study

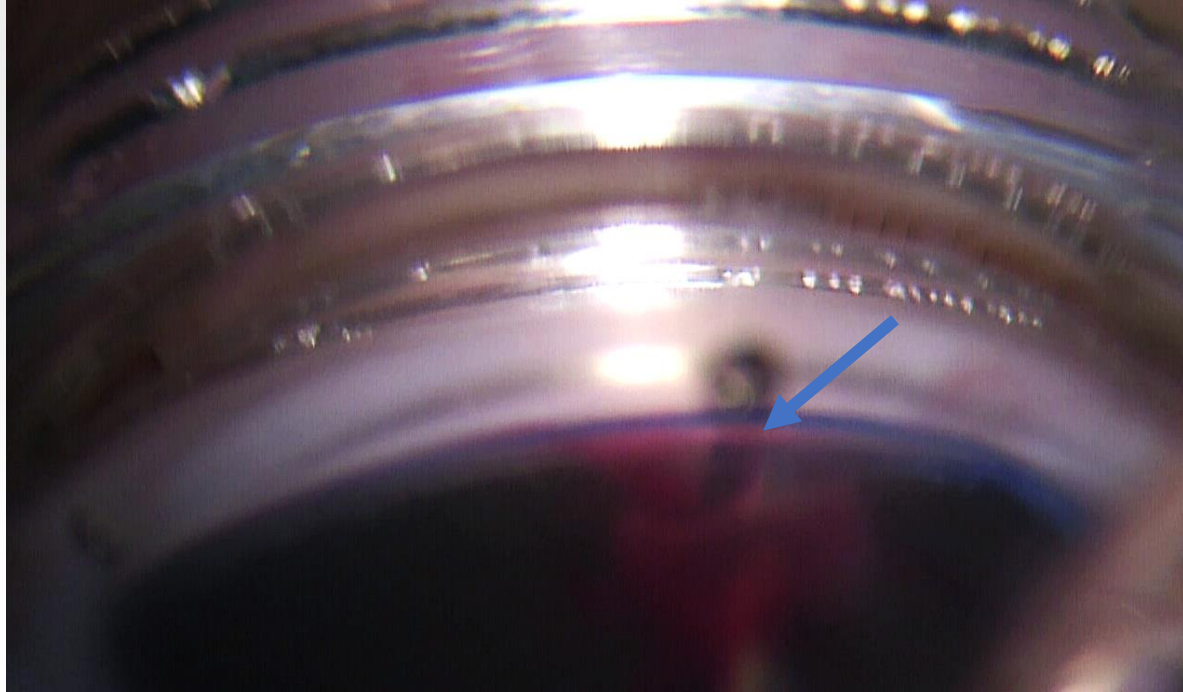
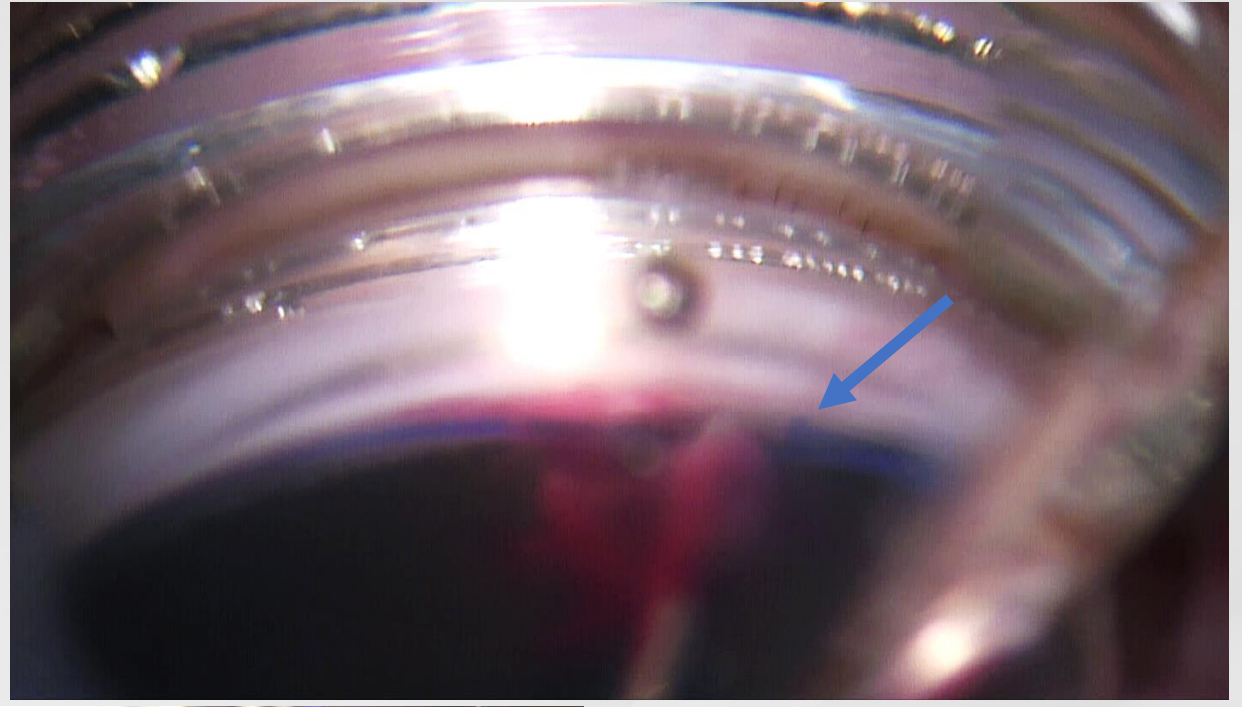
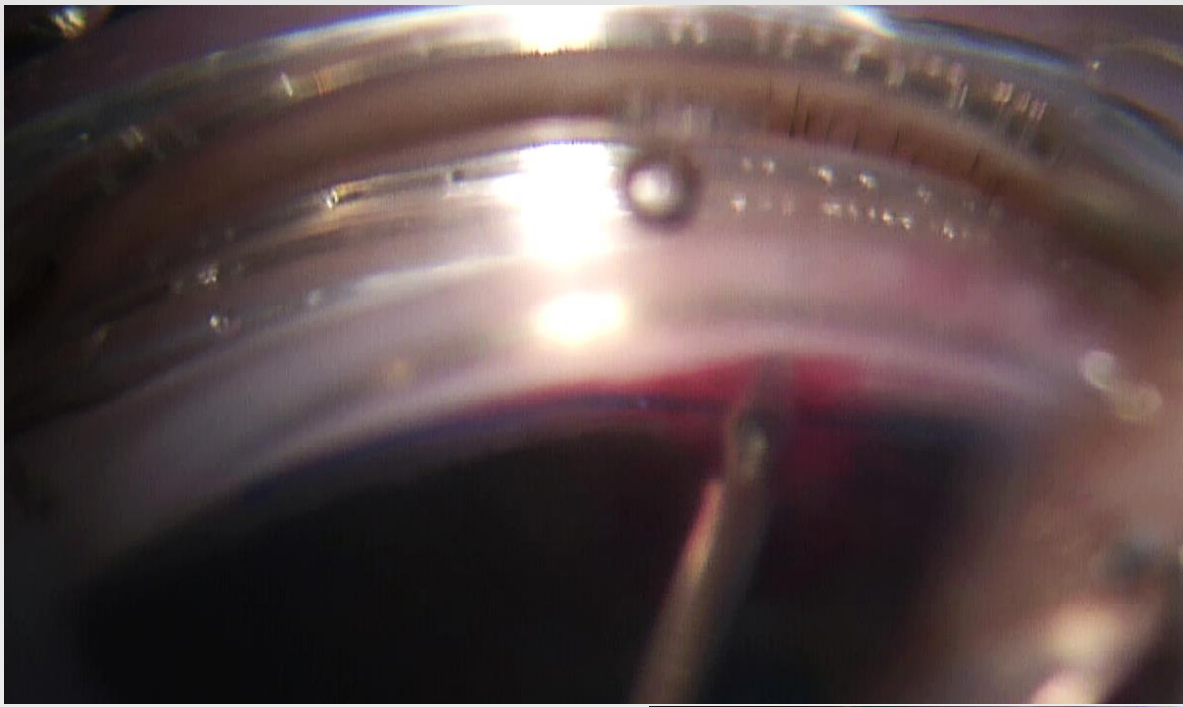
- To assess the safety and efficacy of GATT procedure in the management of PCG in the Egyptian population.



# Patients and Methods

- This study is a **retrospective review** of patients who underwent GATT surgery for PCG from January 2021 to May 2022 in Alexandria main university hospital.
- Outcome measures assessed were **changes in the IOP, cup-to-disc ratio, and the number of medications 1 year after surgery.**
- **Wilcoxon signed-rank test** was used to test the significance.
- Intraoperative and postoperative complications documented in the notes have been reviewed and analyzed.



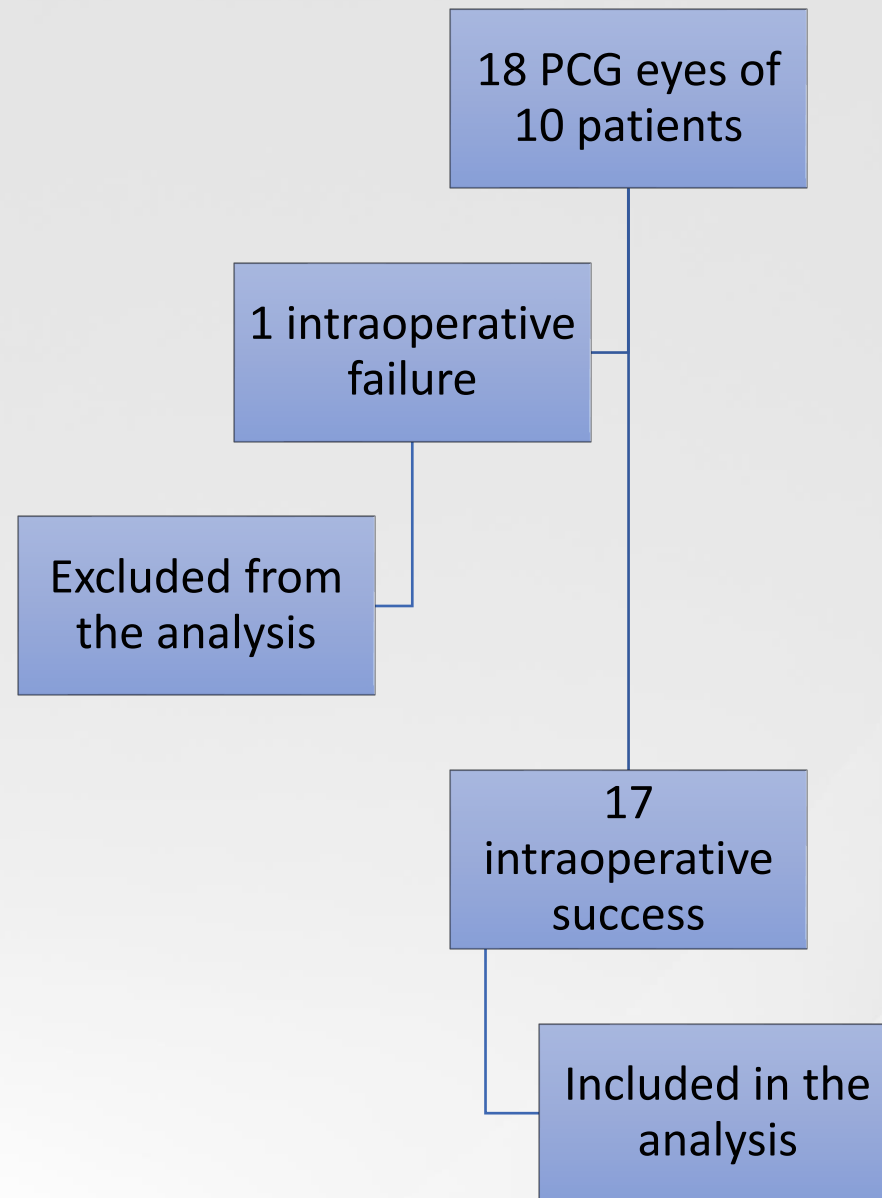


# Results

- The records of **18 eyes of 10 patients** diagnosed with primary congenital glaucoma who underwent GATT procedure were reviewed.

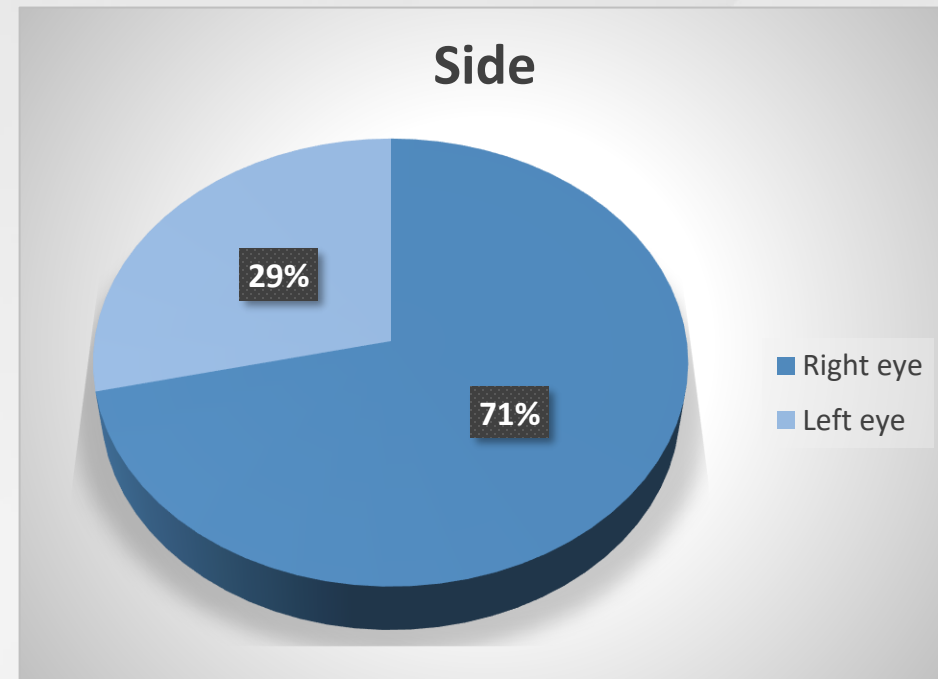
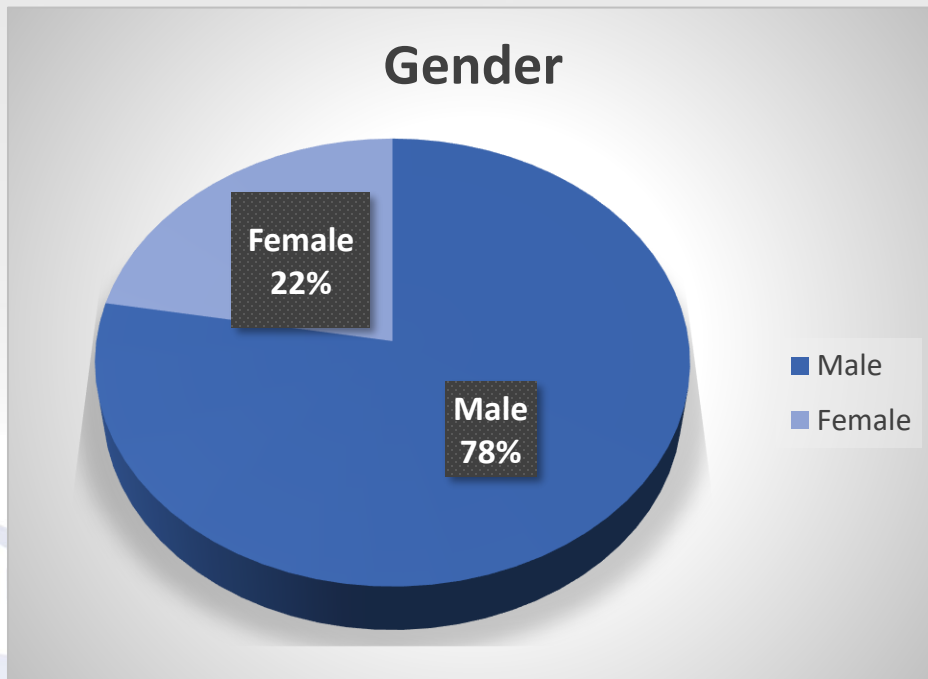






# Results

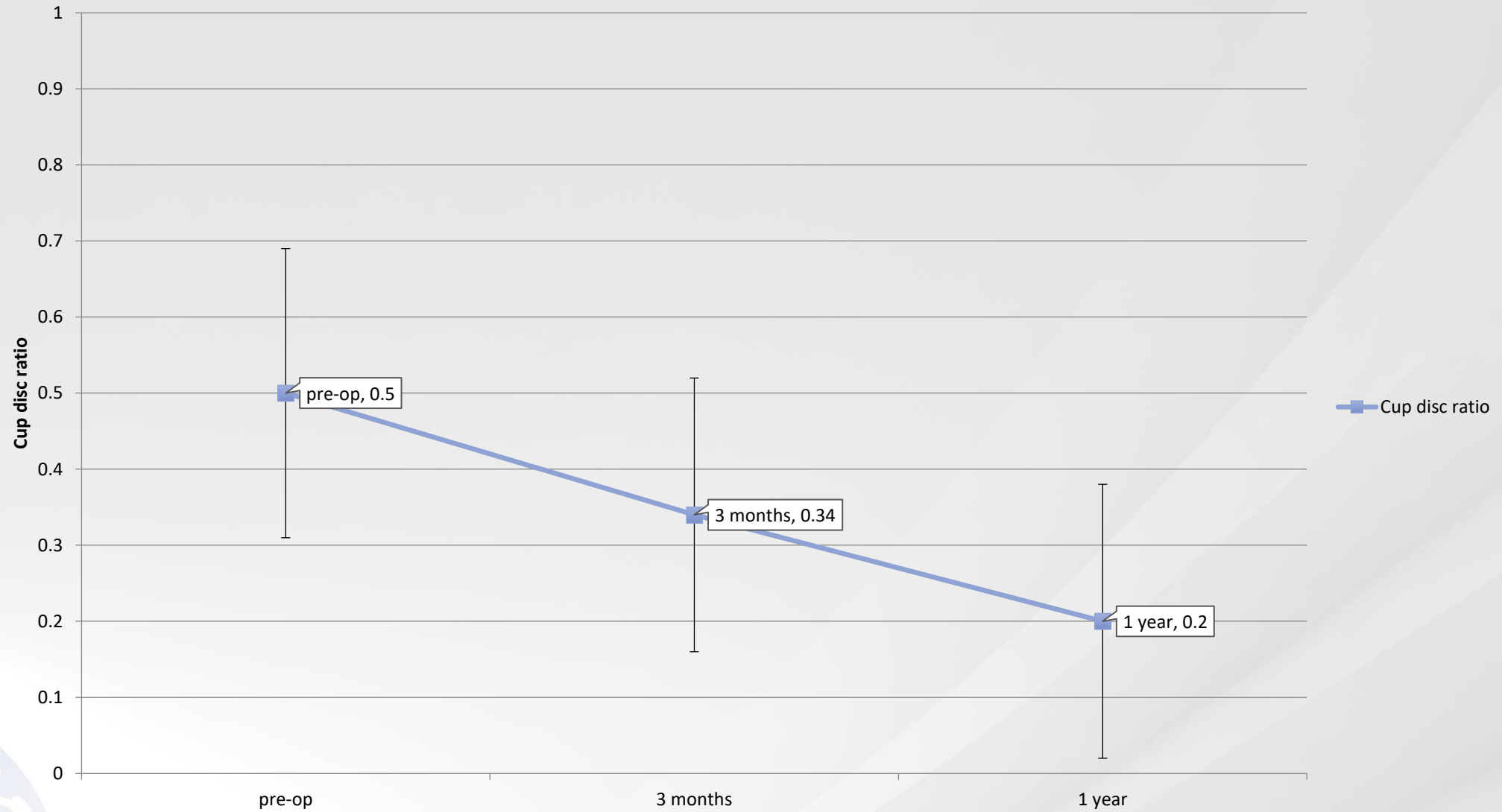
- The mean age of the patients was **6.5 months of age** (4-10 m)
- There was a 14:3 male-to-female ratio.
- There was 8 right eyes and 9 left eyes.



# IOP against time



## Cup disc ratio against time



Test Statistics <sup>a</sup>			
	Postop IOP at 1 year - Preop IOP	Postop Cup disc ratio at 1 year - Preop Cup disc ratio	
Z	-3.629 <sup>b</sup>	-3.078 <sup>b</sup>	
Asymp. Sig. (2-tailed)	.000	.002	
a. Wilcoxon Signed Ranks Test			
b. Based on positive ranks.			

# Results

- All patients were **drops free** at 1 year of follow-up.
- Intraoperative complications reported included **transient hyphema** that stopped once pressurizing the eye.
- Postoperative complications included **Peripheral anterior synechiae** (<1 clock hour) in **2 patients (11.7%)**.
- **None** of the patients suffered **sight threatening complications** (hypotony maculopathy, endophthalmitis), and **none needed second interventions**.

# Conclusions

- GATT is a safe and effective option for the management of PCG cases with clear cornea.
- It successfully lowered IOP in patients with PCG with the advantage of being a **conjunctival sparing procedure**, avoiding conjunctival and scleral incisions.



# Recommendations

- GATT procedure should be considered as a first line of management of PCG with clear cornea.
- Larger prospective RCTs are recommended comparing the GATT procedure to ab externo trabeculotomy and combined trabeculectomy-trabeculotomy procedures.





# Thank you

10<sup>TH</sup> EVOLVING PRACTICE OF OPHTHALMOLOGY  
MIDDLE EAST CONFERENCE

