CO2 Laser Assisted Sclerectomy Surgery - (CLASS) Long term Results of multinational clinical study

Ehud I. Asia, MD, Yokrat Ton, MD, Noa Gefen, MD

Department of Ophthalmology, Meir Medical Center, Kfar-Saba and Ein-Tal Eye Center, Tel-Aviv, Israel

INTRODUCTION

Trabeculectomy — full thickness surgery

NPDS - Non Penetrating Deep Sclerectomy

- > Safe = low complication rate (non-invasive)
- > Effective = comparable to trabeculectomy However
- > Technically challenging, time consuming and not for every surgeon

CO₂ Laser

- > Effectively ablates dry tissue
- > Highly absorbed by water

CLASS - CO2 Laser Assisted Sclerectomy Laser effectively ablates dry scleral tissue over Schlemm's canal until fluid percolates through thinned tissue Fluid absorbs laser energy Further laser applications are not effective

Ablation ceases when end point is achieved

PURPOSE

To report long term (up to 5 years) results of multinational clinical studies of the CO2 Laser-Assisted Sclerectomy Surgery (CLASS) in open angle and pseudoexfoliative glaucoma patients.

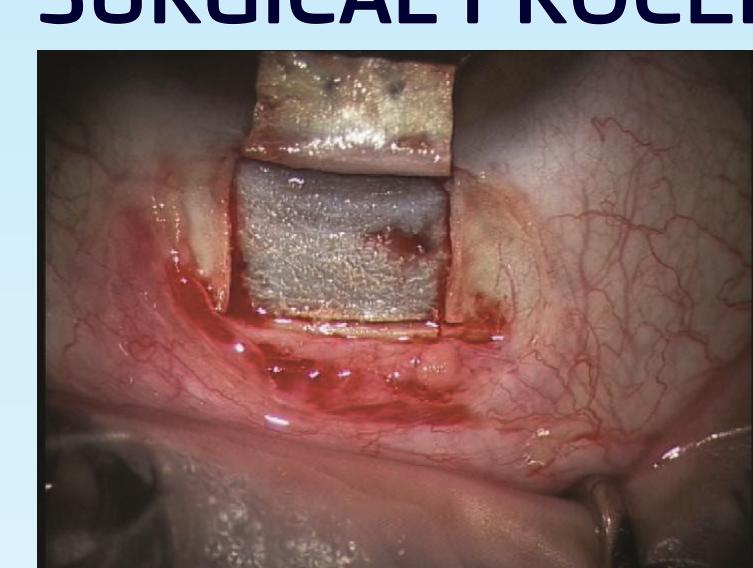
METHODS

CLASS was performed using CO2 laser and the IOPtiMateTM system (IOPtima, Israel) in 9 sites in 7 countries. Intraocular pressure (IOP), surgical complications and use of anti-glaucoma medications were recorded.

The IOPtiMateTM system (IOPtima, Israel)

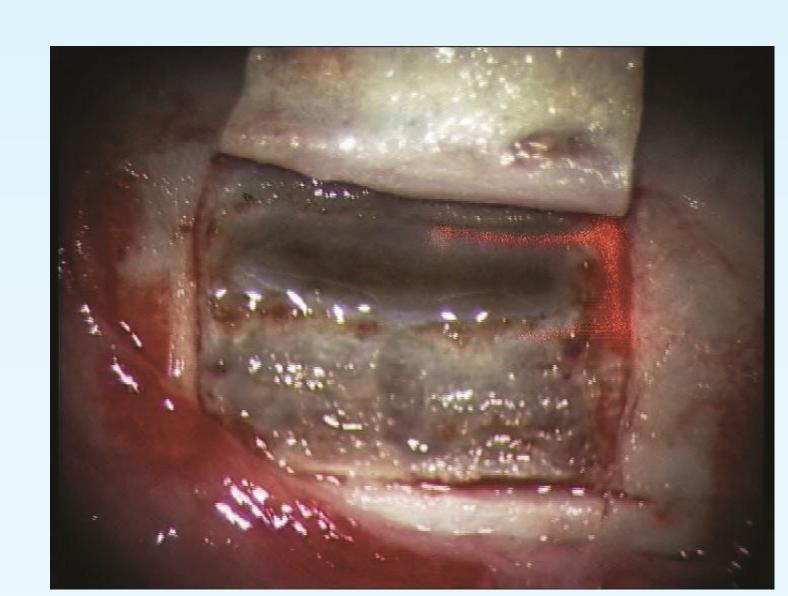


SURGICAL PROCEDURE



1. Scleral flap

2. Tissue ablation





3. Fluid percolation

4. Suturing

RESULTS

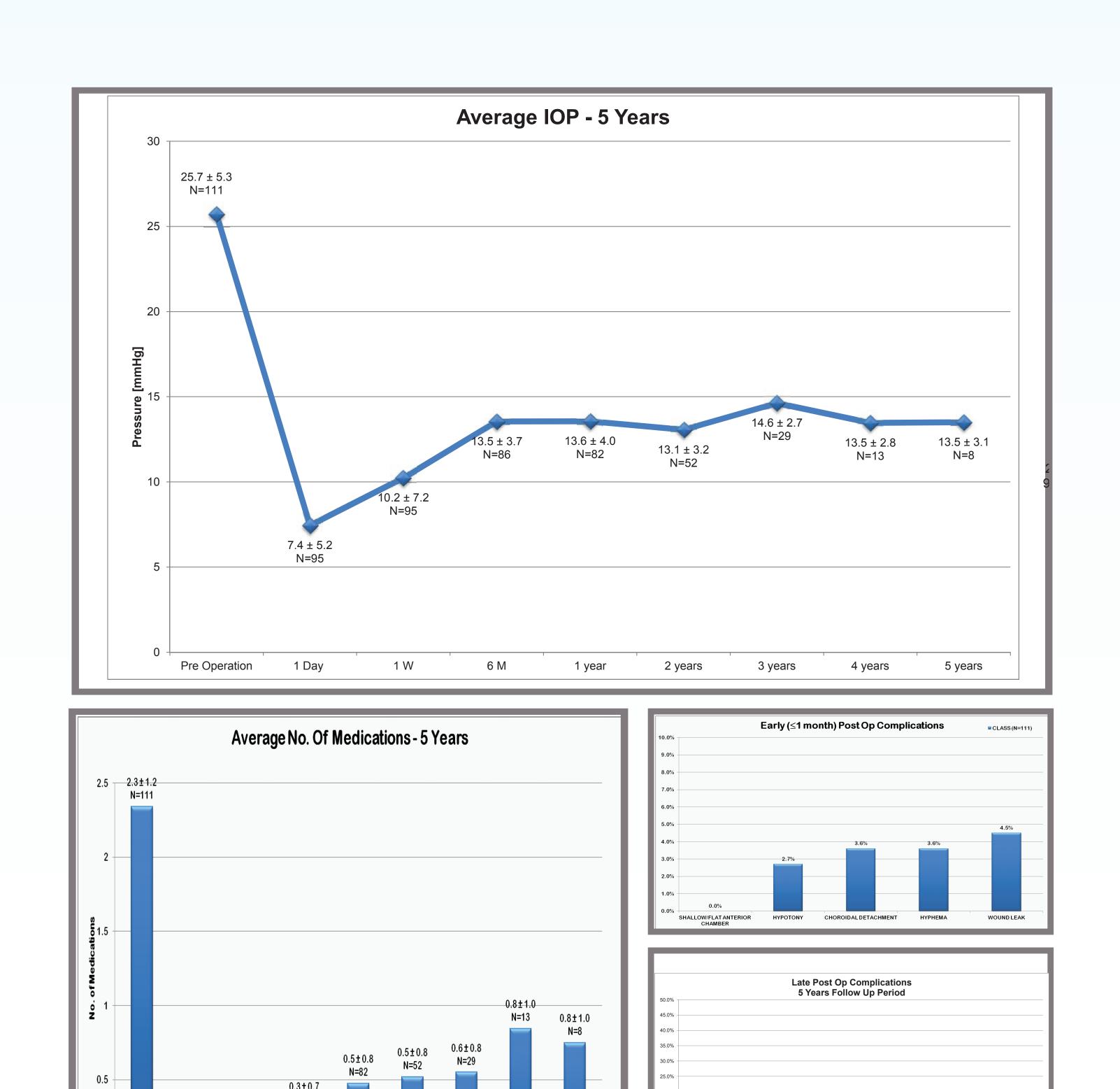
Prospective, single-arm, non-randomized, multi-center clinical study

Number of patients: 111 Gender: males 55%, females 45% Glaucoma: POAG - 76%, PEXG- 24% $69.3 \pm 12.8 \text{ yrs}$

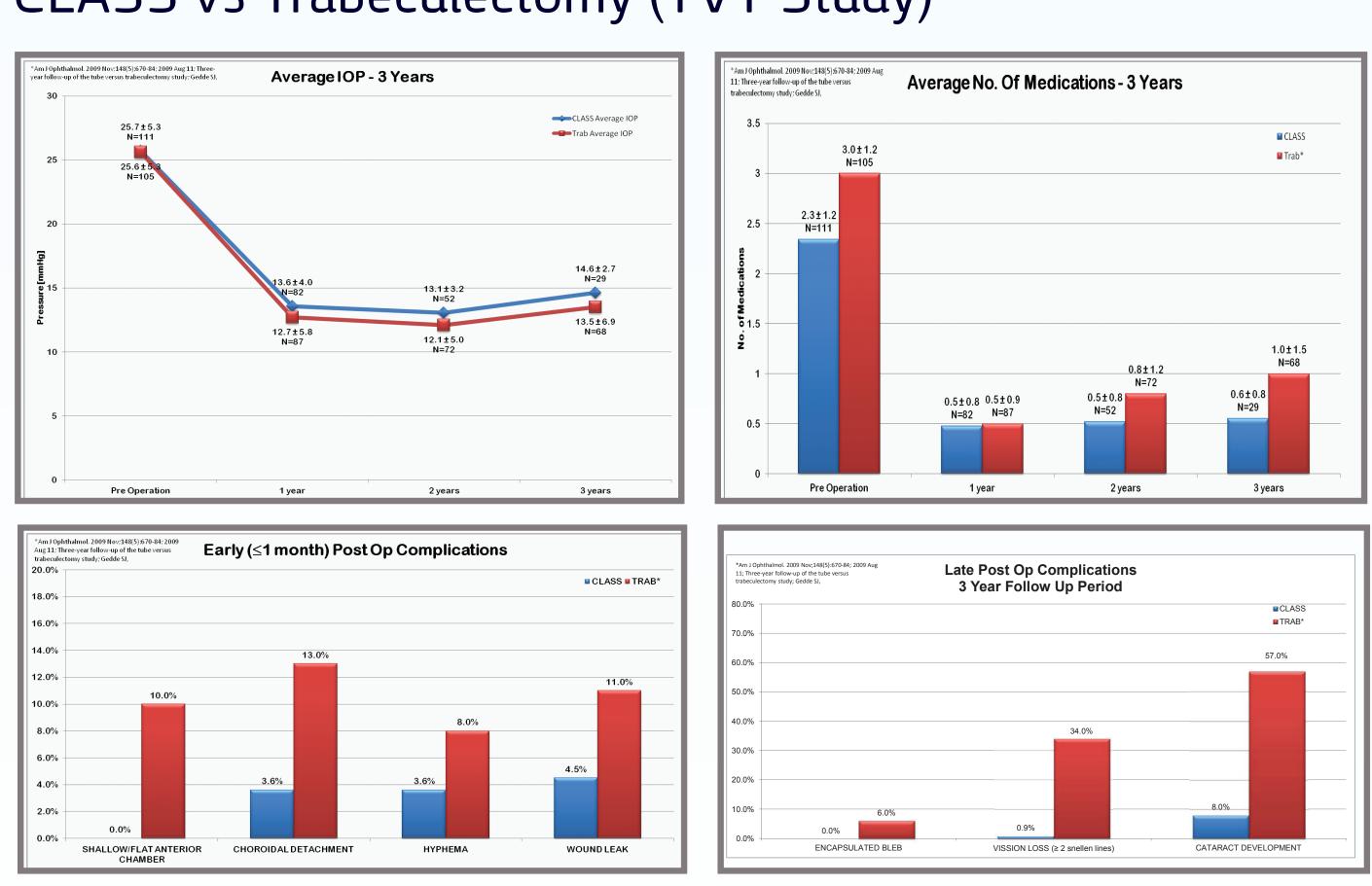
ENCAPSULATED BLEB

MMC: 93% of procedures

Age:



CLASS vs Trabeculectomy (TVT Study)



CONCLUSIONS

Long-term clinical results indicate that CLASS is:

- > A Safe, Minimally Invasive Laser Procedure
- > Significantly reduces IOP and medications
- > Low post operative complication rates