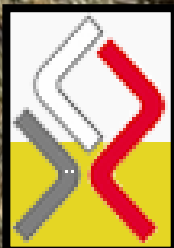
The background of the slide is a detailed, ornate ceiling with intricate carvings and a central circular medallion. The text is overlaid on a semi-transparent yellow rectangular area.

**THE EFFICACY AND  
SAFETY OF PNEUMATIC  
TRABECULOPLASTY:  
RESULTS OF A 6-MONTH,  
MULTICENTER STUDY**



**Fogagnolo P (1), Rossetti L (2), Marraffa M (3),  
Rolando M (4), Ciancaglini M (5), Marchini G (3),  
Calabria G (4), Mastropasqua L (5), Orzalesi N (2)**

(1) G.B. Bietti Foundation for the  
Study and Research in Ophthalmology, IRCCS, Rome, Italy  
(2) Eye Clinic, San Paolo Hospital, University of Milan, Italy  
(3) Eye Clinic, Department of Neurological and Vision Science,  
University of Verona, Italy  
(4) Department of Ophthalmology, University of Genoa, Italy  
(5) Ophthalmic Clinic, University of Chieti, Italy



**FONDAZIONE G.B. BIETTI**


PER LO STUDIO E LA RICERCA IN OFTALMOLOGIA - ONLUS  
IRCCS - Istituto di Ricovero e Cura a Carattere Scientifico

*sostenuta dalla Fondazione Cassa di Risparmio di Roma*





# INTRODUCTION

 Pneumatic trabeculoplasty (PNT) is a novel device for the treatment of OHN and POAG

 Few clinical data are up-to-now available



# PURPOSE

To evaluate the efficacy  
and safety of PNT  
in patients with  
OHT and POAG



# METHODS

- 🌐 4 Italian academic sites
- 🌐 63 patients
- 🌐 Worse eye = **PNT**
- 🌐 Fellow eyes = **CONTROLS**

## INCLUSION CRITERIA

- diagnosis of OHT or POAG
- IOP = 20 – 25 mmHg  
(treated & untreated –  
washout not required)

## EXCLUSION CRITERIA

- mean defect < -12 dB
- past intraocular surgery  
or inflammation
- significant eye diseases
- myopia > 6 D



# SCHEDULED VISITS

**BASELINE** (day -1) 😊

**PNT TREATMENT** (day 0, day 7)

**SAFETY VISIT** (day 1, day 8)

**FOLLOW-UP VISITS**  
(month 1, 2, 3, 4, 5, 6) 😊

😊 *daytime IOP curve (8, 10 am, 2, 4 pm)*



# THE PROCEDURE

Tetracaine 0.5%

The lids are gently spread by the physician using his fingers

A sterile PNT ring is centered on the cornea

Moderate downward pressure to facilitate the initial attachment of the ring

Vacuum of 20 inches Hg is applied to the ring and to the eyes

60 seconds; rest of 5 minutes; 60 seconds

Topical antibiotic + non steroid anti-inflammatory eyedrops (QID, 1/52)



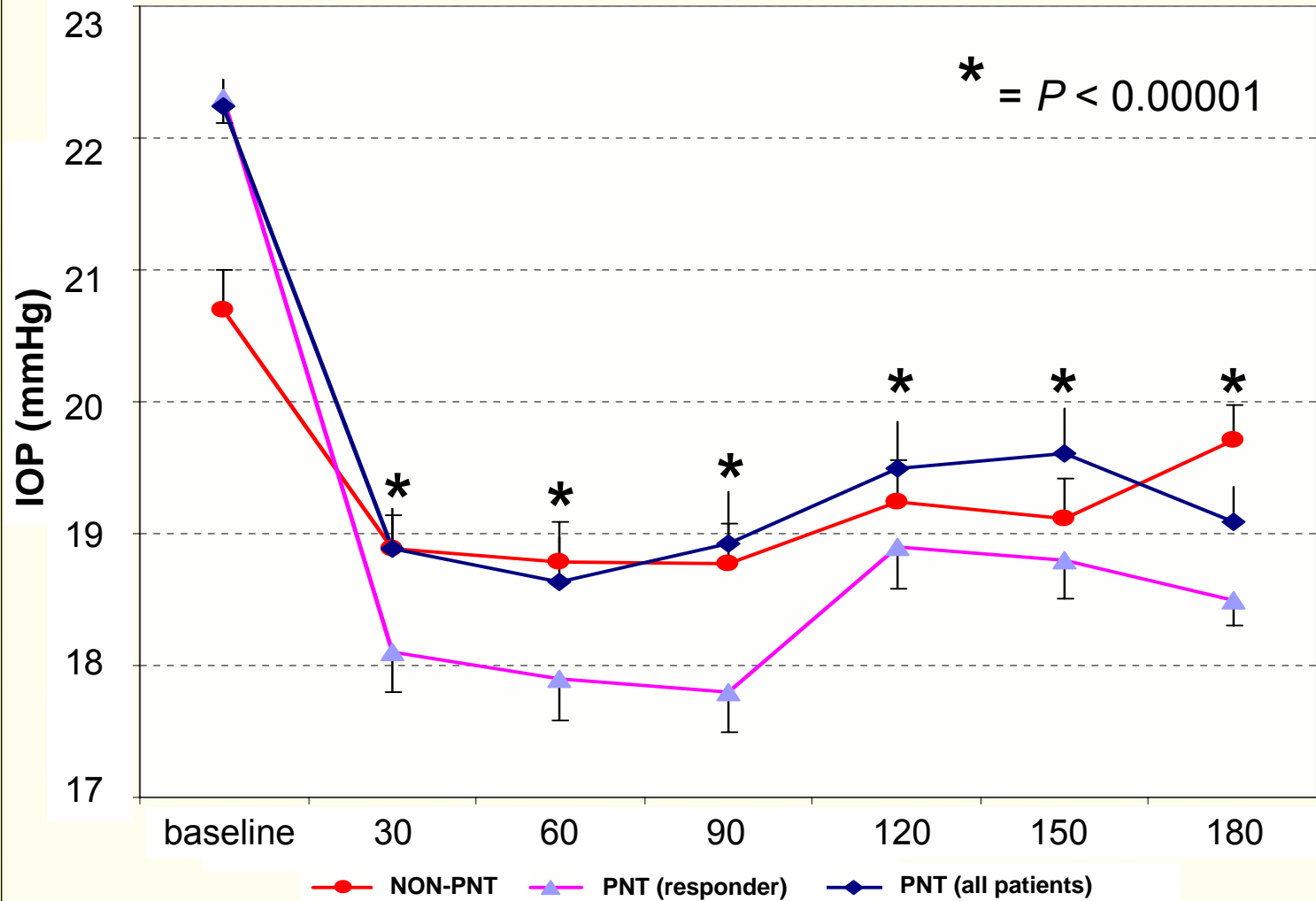


# PATIENTS' CHARACTERISTICS

Age at inclusion	mean $\pm$ SD (range)	66 $\pm$ 10 years (42-87)	
Race, n	Caucasian / Black	98% / 2%	
Male / Female, %		57% / 43%	
Iris, %	Pigmented / Not pigmented	74% / 26%	
Study discontinuations, n (%)		8 (13%)	
		<b>PNT eye</b>	<b>Not-PNT eye</b>
OD / OS		60% / 40%	40% / 60%
POAG / OHT		40% / 60%	56% / 44%
Treatment, n	None	21%	17%
	Prostaglandin analogues	49%	25%
	Beta-blockers	35%	29%
	Others	3%	5%



# RESULTS





 Mean IOP decrease from baseline:


**17.9% ± 19.1%**

 Rate of non-responders ( $\leq 5\%$ ):

**23% – 32%**

 Mean IOP decrease in responders:

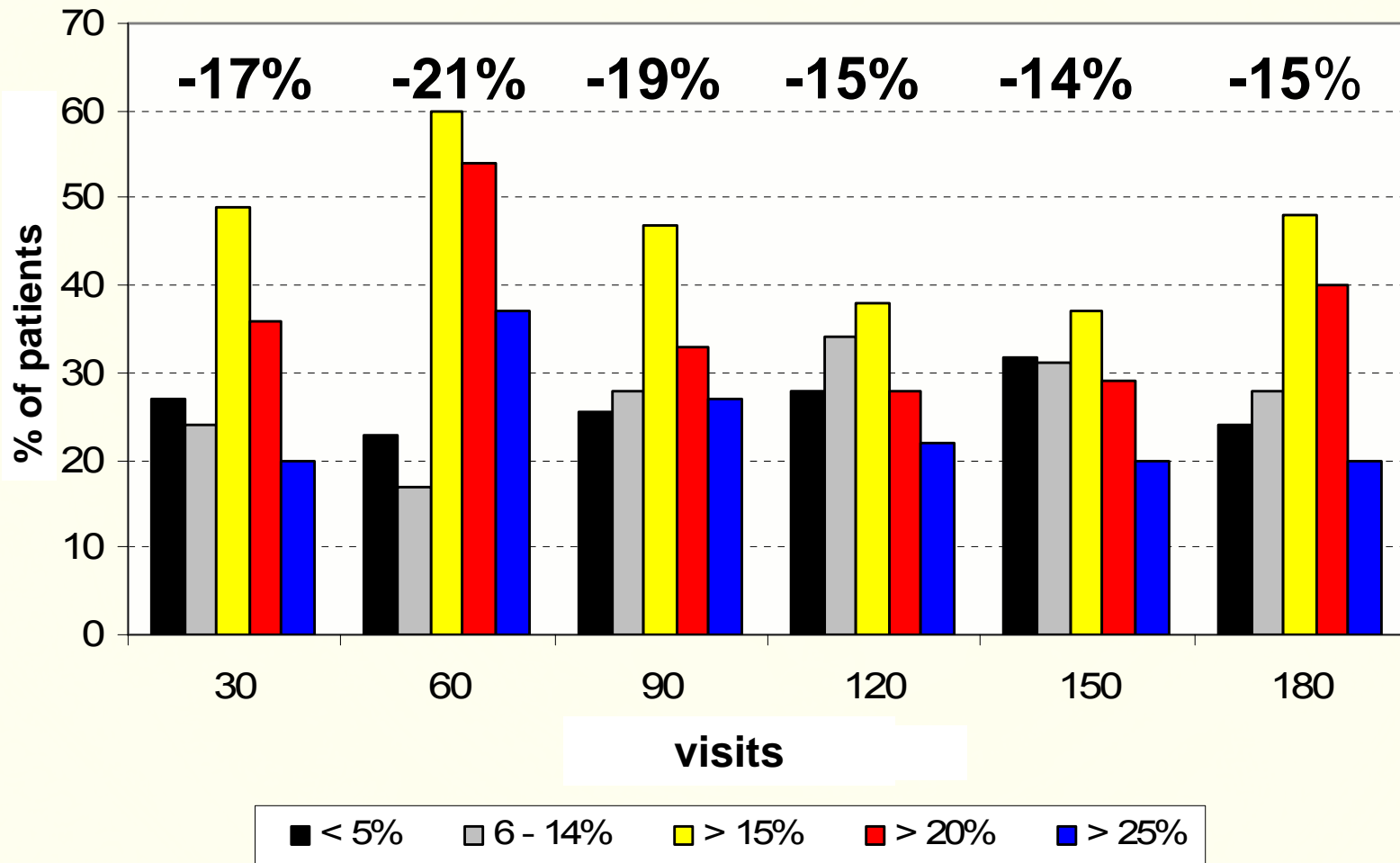
**23.0% ± 18.2%**

 Significant decrease also in  
untreated eyes (except at day 180)

*Trend for better responses in PNT group using prostaglandin analogues compared to beta-blockers (22.8% ± 16.0% vs 11.0% ± 14.9%,  $P = 0.17$ )*



# % IOP reduction compared to baseline





<b>SIDE EFFECTS</b>	<b>N (%)</b>	<b>DURATION, mean ± SD (range)</b>
Conjunctival hyperaemia	31 (49%)	12 ± 20 days (1; 90)
Foreign body sensation	11 (17%)	10 ± 13 days (1; 45)
Punctuate keratitis	8 (13%)	7 ± 0 days
Blurred vision	7 (11%)	1 ± 2 hours (15 mins – 5 hours)
Subconjunctival haemorrhage	5 (8%)	5 ± 6 days (1; 14)
Burning	4 (6%)	6 ± 6 days (1; 14)
Dry eye sensation	3 (5%)	10 ± 6 days (1; 14)
Corneal abrasion	1 (2%)	7 days
Corneal oedema	1 (2%)	7 days
IOP increase to 40 mmHg	1 (2%)	1 day
Photophobia	1 (2%)	1 day



# CONCLUSIONS

- 🌍 **SAFE** (up to 6 months)
- 🌍 **EFFECTIVE**
- 🌍 **UNEXPLAINED DECREASE IN FELLOW EYES**
- 🌍 **HIGH RATE OF NON-RESPONDERS**
- 🌍 ***Many unresolved questions:***
  - ... mechanism of action? synergic to PG?
  - ... repetitions: how often? are they effective?
  - ... decrease in fellow eye?



# “Oculus” by Andrea Mantegna (1431 – 1506)

La Camera degli Sposi,  
Palazzo Ducale,  
Mantova – Italy



# 864  
B767

contact: [fognolopaolo@googlemail.com](mailto:fognolopaolo@googlemail.com)