Long-Term Effects of Phacoemulsification on Intraocular Pressure in Patients with Primary Open-Angle Glaucoma and Pseudoexfoliation Glaucoma
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No conflict of interest to declare

Purpose

Primary:

- To compare long-term effects of phacoemulsification on intraocular pressure (IOP) in patients with primary open-angle glaucoma (POAG) and pseudoexfoliation glaucoma (PXG).

Secondary:

- To compare the change in the number of topical hypotensive drugs used and visual fields values (mean deviation and visual field index).

Methods

- Longitudinal, retrospective, observational and descriptive study

- Asoc. Para Evitar la Ceguera (Mexico City), January 2018 – January 2019

Demographics characteristics

- Baseline

- Postoperative day 1, week 1, month 1, 3, 6, and 12

Visual fields data

- Baseline

- Postoperative months 3, 6, and 12.

Exclusion criteria

- BCVA <20/400

- Any other corneal or retinal disease

Methods

- **Success:**

- IOP ↓ 15% compared with preop

  - Complete

  - Qualified

- **Failure:**

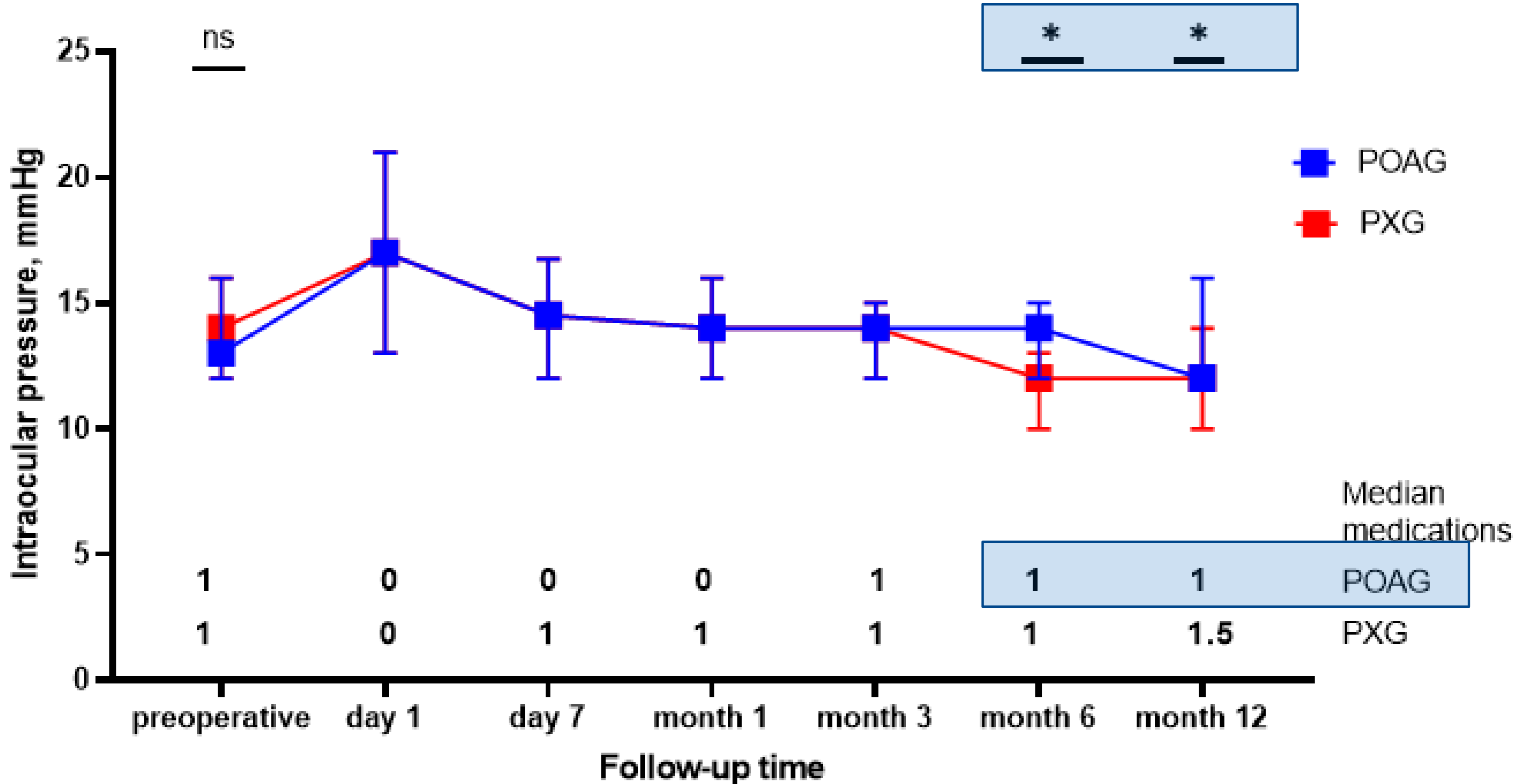- IOP >21 mmHg at 2 consecutive visits

- IOP ↓<15% compared with preop

Results

- A total of 674 surgical procedures

- 102 eyes met criteria

Table 1. Demographic and baseline clinical characteristics (n = 102 eyes)

Parameter	POAG n=51	PXG n=51	#p
Age (years), Mean ±SD (range)	72.92 ± 8.2(52-89)	78.82 ±7.3 (63-98)	0.0002*
Gender, n (%)			
Female/Male	35(69)/16(31)	27(53)/24(47)	0.105
Eye, n (%)			
Right/Left	23(45)/28(55)	29(56.9)/22(43.1)	0.235
VA, median [IQR] (mean±SD)			
UCVA (LogMAR)	0.7[0.5,1.2](0.9± 0.5)	0.85[0.6,1.8](1.2±0.8)	0.058
CDVA (LogMAR)	0.4[0.2,0.5](0.4 ±0.3)	0.5[0.3,1](0.8±0.8)	0.016*
IOP, median [IQR] (mean ±SD)			
Baseline IOP (mmHg)	16.5[16,18.5](17.5±3.8)	20[16,24](20.8±5.6)	0.003*
Preoperative IOP (mmHg)	13[12,16](13.5±2.5)	14[12,16](14.5±3.3)	0.149
Meds, median[IQR](mean±SD)	1 [1,2](1.6±1.1)	1 [1,2](1.3±1.1)	0.217
VF, median [IQR] (mean ±SD)			
MD (dB)	-4.99[-7.5,-3.4](-6.2±4.8)	-8.9[-19.2,-3.5](-11.6±9.9)	0.036*
VFI (%)	92[83,96](86.8±14.3)	78[46,96](66.7±34.9)	0.026*

Results

Median medications

Follow-up time	POAG	PXG
preoperative	1	1
day 1	0	0
day 7	0	1
month 1	0	1
month 3	1	1
month 6	1	1
month 12	1	1.5

Results
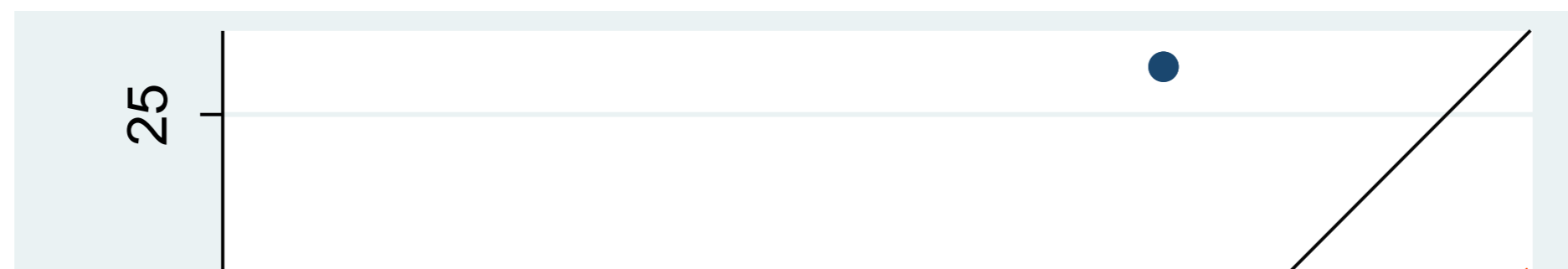
Table 3. Post-operative measurements at month 12 of follow-up

	POAG (n=35)	PXG (n=39)	#p
Complete success, n (%)	2 (5.7)	5 (12.8)	0.262
Qualified success, n (%)	12 (34.3)	20 (51.3)	0.141

Abbreviation: POAG: primary open-angle glaucoma, PXG: pseudoexfoliation glaucoma.
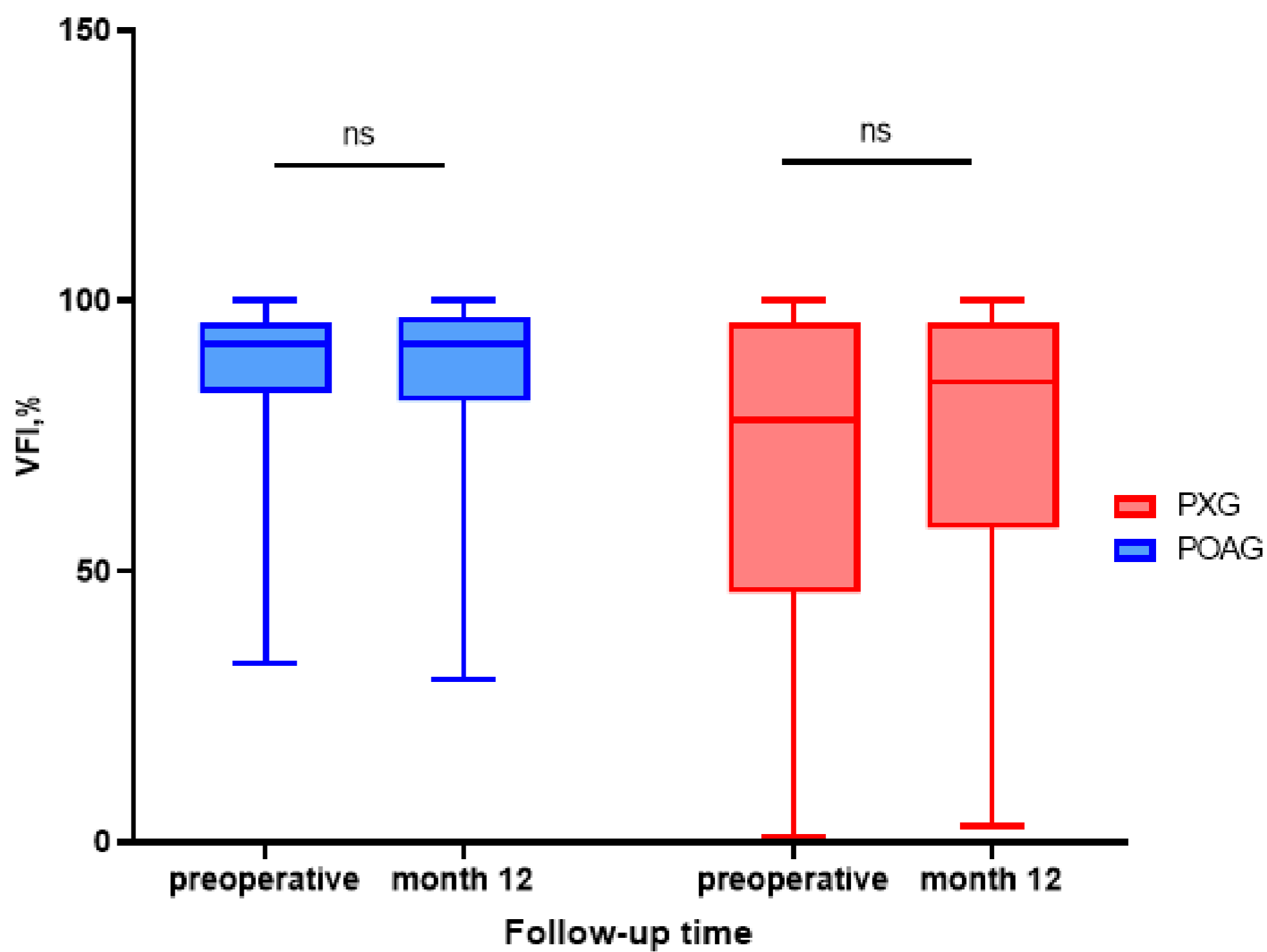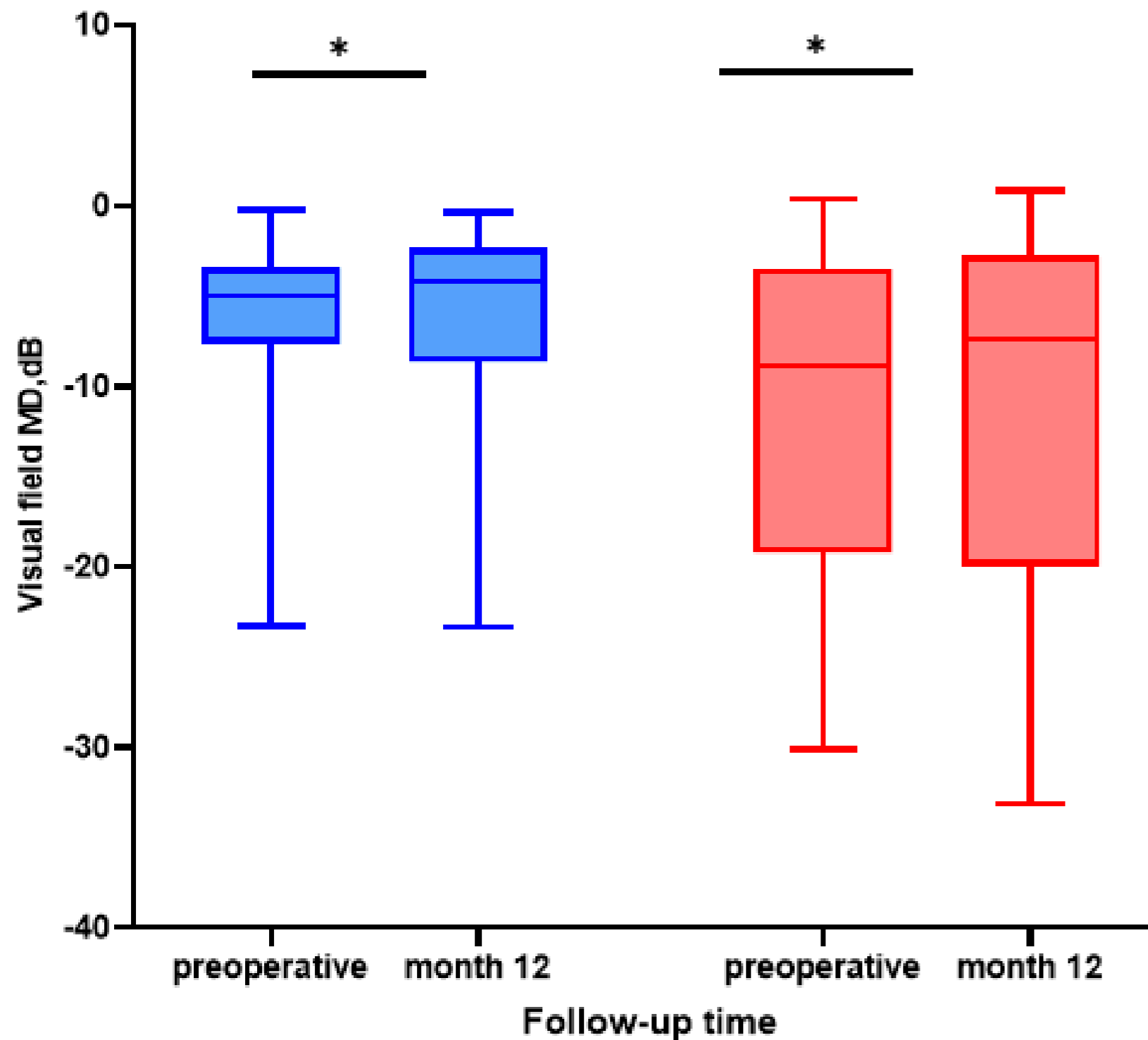
#Chi2 test, Fisher's exact test
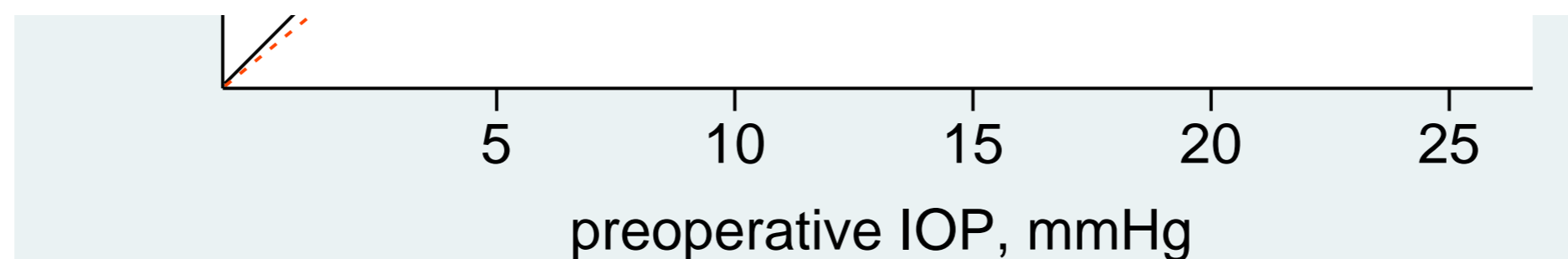
Results

Mean deviation (MD)

Visual field index (VFI)

Conclusions

- Hispanic population exhibit an IOP behavior similar to what is reported in other ethnic groups.

- PXG group have a significant amount of IOP reduction probably associated with a higher presurgical IOP (p=0.001).

- POAG group have a statistically significant reduction in the number of glaucoma medications (p=0.026)

- Limitations: retrospective nature, non-standardized groups, multiple surgeons.

- More prospective studies on Hispanic population would guide us as to whether this is a good initial measure for certain patients.