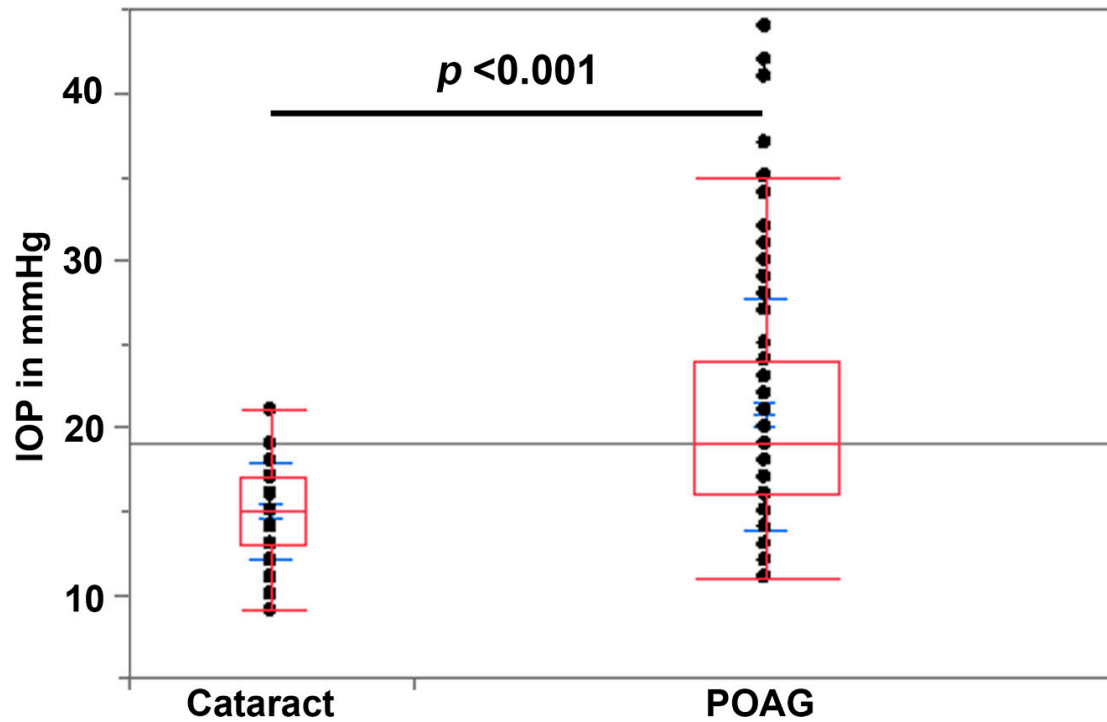
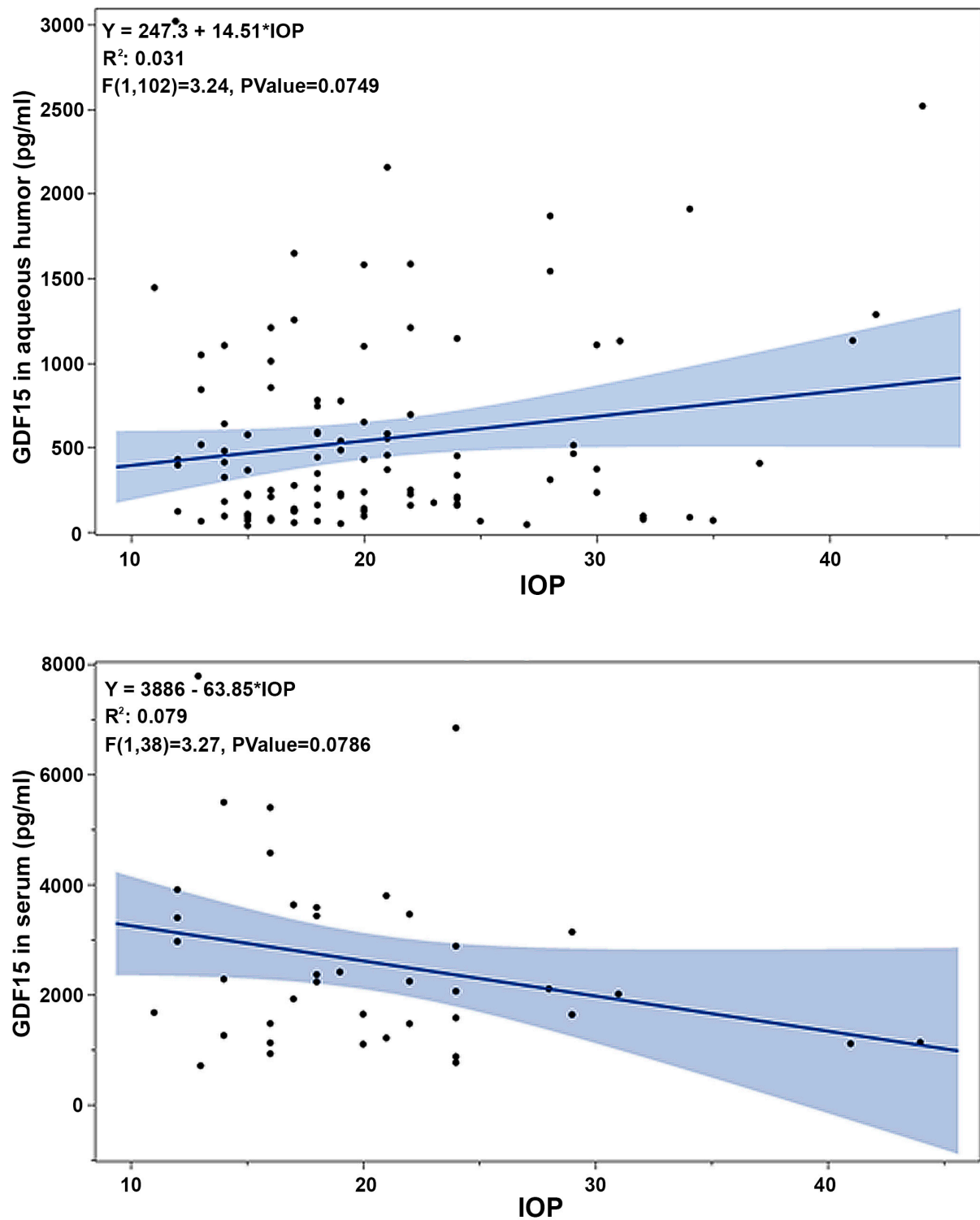


**Figure S1:** Elevated IOP in POAG patients compared to non-glaucoma (cataract patients). The box and whisker plots represent median and the interquartile range in the distribution.

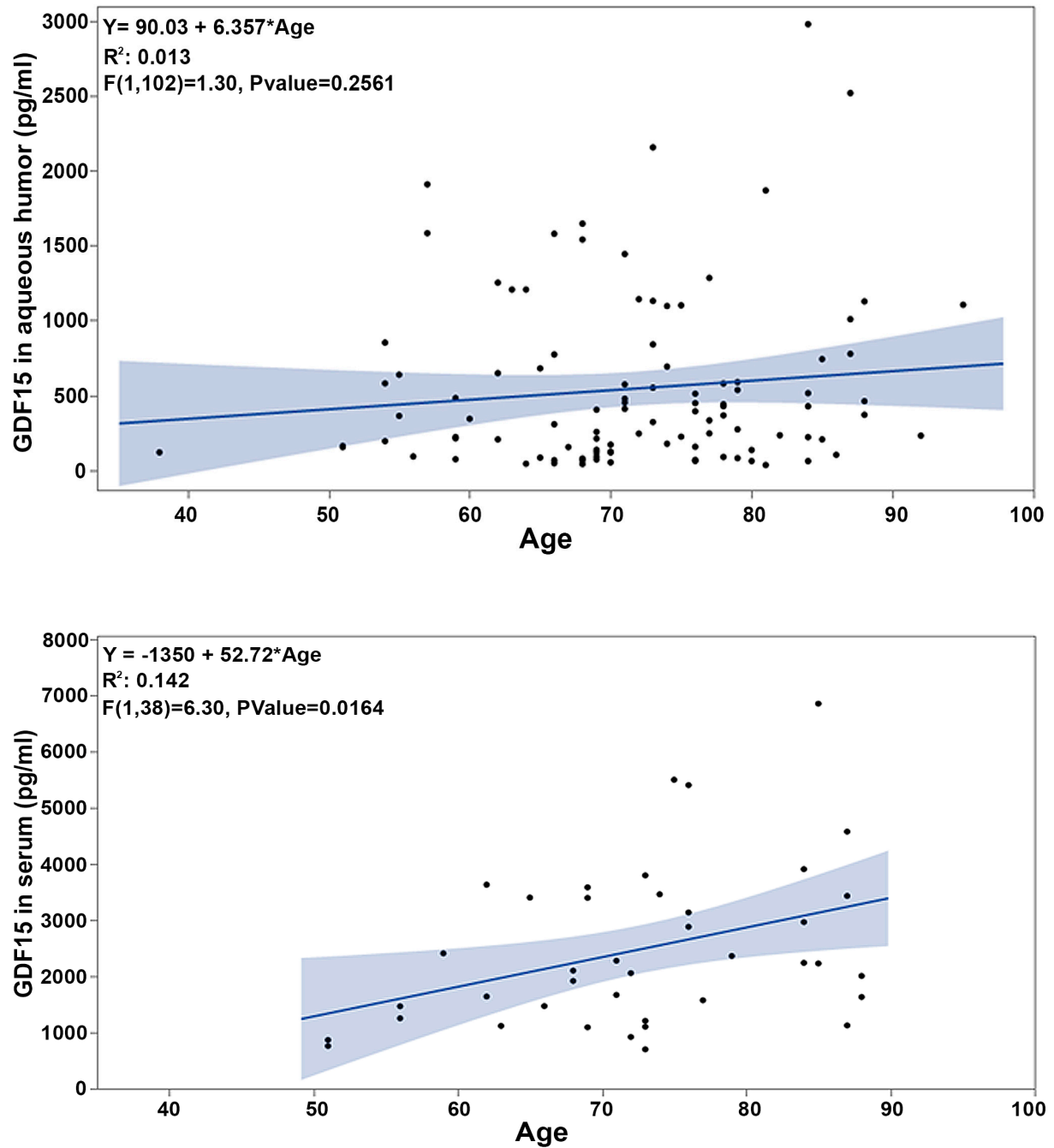


P-values were based on Wilcoxon rank sum test of difference between medians.

**Figure. S2.** Relationship between aqueous humor and serum GDF15 levels and IOP in POAG patients. AH GDF15 (A), serum GDF15 (B) and IOP of POAG patients did not reveal a significant relationship.



**Figure S3.** Relationship between aqueous humor and serum GDF15 levels and age in POAG patients. AH GDF15 (A), serum GDF15 (B) and age of POAG patients did not reveal a significant relationship.



**Table S1: Demography details of the subgroup of POAG and cataract patient study**

		<b>Cataract n=32</b>	<b>POAG n=41</b>	<b>P-value*</b>
Age	n	32	40	
	Mean (SD)	70.8 (7.3)	72.6 (10.2)	0.416
	Min, Median, Max	51, 72, 84	51, 73, 88	
Gender	n (%)			
Female		13 (40)	22 (53)	
Male		19 (59)	19 (46)	0.346
Race	n (%)			
Asian		1 (3)	1 (2)	
Caucasian		29 (91)	19 (46)	
African American		2 (6)	21 (51)	<0.001

\*P-value for gender and race based on Fisher's exact test.

P-value for age based on two sample t-test.

Abbreviations: POAG, primary open-angle glaucoma; SD, Standard deviation.

**Table S2: GDF15 levels in the aqueous humor and serum of POAG and non-glaucoma (cataract) subjects.**

		<b>Cataract</b>	<b>POAG</b>	<b><i>P</i>-value*</b>
GDF15 (AH)	n	32	40	
	Mean (SD)	103.63 (141.06)	791.20 (675.16)	
	Min, Median, Max	1.5, 63.5, 776.0	68.0, 619.0, 2978.0	<0.001
GDF15 (Serum)	n	32	41	
	Mean (SD)	1659.44 (1029.49)	2606.10 (1634.56)	
	Min, Median, Max	189.0, 1481.5, 3950.0	701.0, 2228.0, 7771.0	<0.011

\**P*-value based on Wilcoxon rank sum test.

Abbreviations: GDF15, Growth/Differentiation Factor-15; POAG, primary open-angle glaucoma; AH, Aqueous humor; SD, Standard deviation.

**Table S3: GDF15 levels in the aqueous humor and serum of male and female POAG and cataract patients.**

Variable	Gender	Statistic	Cataract	POAG	p-value*
GDF15 (AH)	Female	n	19	21	<0.001
		Mean (SD)	89.37 (68.73)	750.19 (844.09)	
		Min, Median, Max	3.0, 76.0, 250.0	68.0, 411.0, 2978.0	
GDF15 (AH)	Male	n	24	19	<0.001
		Mean (SD)	104.88 (154.19)	836.53 (438.03)	
		Min, Median, Max	1.5, 64.0, 776.0	138.0, 743.0, 1647.0	
GDF15 (Serum)	Female	n	13	22	0.015
		Mean (SD)	1241.62 (930.85)	2598.73 (1735.00)	
		Min, Median, Max	189.0, 1302.0, 3682.0	701.0, 2141.5, 6849.0	
GDF15 (Serum)	Male	n	19	19	0.148
		Mean (SD)	1945.32 (1017.50)	2614.63 (1557.31)	
		Min, Median, Max	287.0, 1850.0, 3950.0	1093.0, 2228.0, 7771.0	

\*P-value based on Wilcoxon rank sum test of difference between medians.

Abbreviations: GDF15, Growth/Differentiation Factor-15; POAG, primary open-angle glaucoma; AH, Aqueous humor; SD, Standard deviation.

**Table S4: Demography details of the large cohort POAG and cataract patient study**

		Cataract N=117	POAG N=106	P-value*
Age	n	117	105	
	Mean (SD)	70.6 (8.7)	71.5 (10.3)	0.480
	Min, Median, Max	45, 72, 90	38, 71, 95	
Gender	n (%)			
	Female	64 (55)	54 (51)	
	Male	53 (45)	52 (49)	0.593
Race	n (%)			
	Asian	4 (3)	1 (1)	
	Caucasian	95 (82)	51 (49)	
	African American	16 (14)	53 (50)	
	Indian	1 (1)	0	<0.001

\*p-value for gender and race based on Fisher's exact test.

p-value for age based on two sample t-test.

Abbreviations: POAG, primary open-angle glaucoma; SD, Standard deviation.

**Table S5: GDF15 levels in the aqueous humor of POAG and cataract patients.**

		Cataract	POAG	<i>P</i> -Value*
GDF15 (AH)	n	117	105	
	Mean (SD)	69.32 (87.63)	550.18 (577.13)	
	Min, Median, Max	0.3, 49.0, 776.0	36.1, 364.0, 2978.0	<0.001

\*\*p-Value based on Wilcoxon rank sum test of difference between medians.

Abbreviations: GDF15, Growth/Differentiation Factor-15; POAG, primary open-angle glaucoma; AH, Aqueous humor; SD, Standard deviation.

**Table S6: GDF15 levels in aqueous humor and serum samples from male and female cataract patients.**



Variable	Statistic	Female	Male	<i>P</i> -value*
GDF15 (AH)	n	64	53	0.046
	Mean (SD)	60.41 (65.33)	80.07 (108.36)	
	Min, Median, Max	0.3, 39.0, 357.1	1.5, 52.0, 776.0	
GDF15 (Serum)	n	13	19	0.025
	Mean (SD)	1241.62 (930.85)	1945.32 (1017.50)	
	Min, Median, Max	189.0, 1302.0, 3682.0	287.0, 1850.0, 3950.0	

\**p*-value based on Wilcoxon rank sum test of difference between medians.

Abbreviations: GDF15, Growth/Differentiation Factor-15; AH, Aqueous humor; SD, Standard deviation.