

# Ab interno Canaloplasty (ABIC)



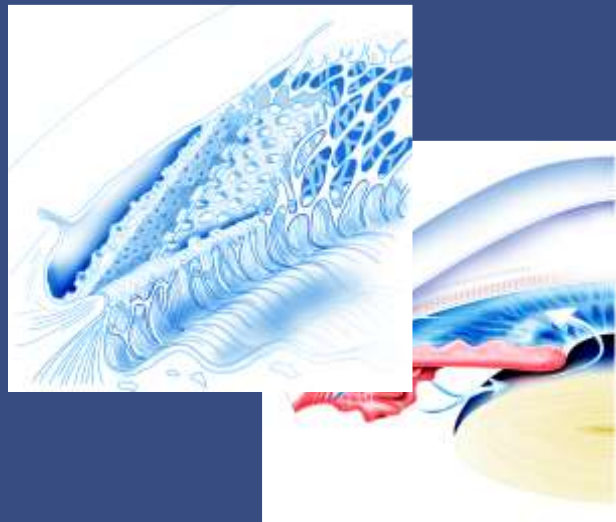
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- I Have no financial interest in this study
- Special thanks to Tarek SHAARAWY

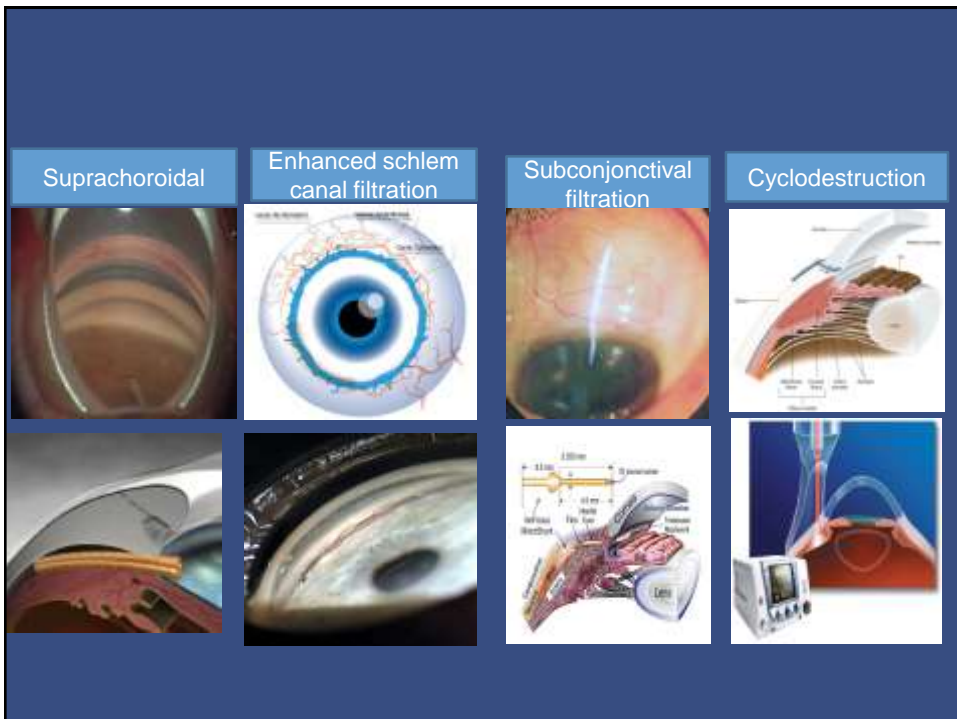
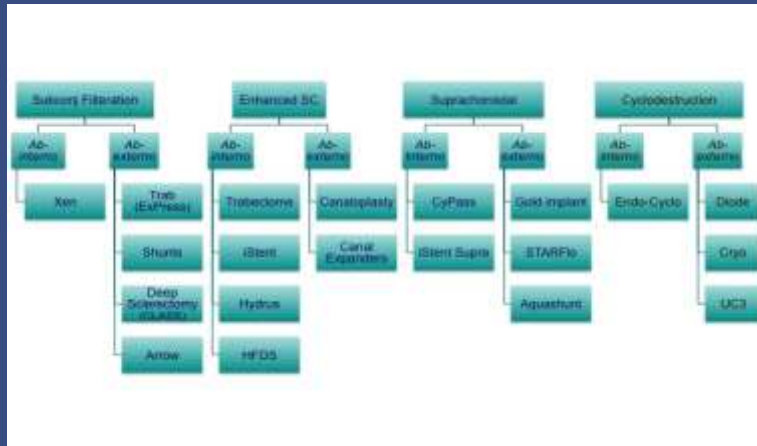
## Friedrich Schlemm



## Schlemm Canal



# Shaarawy Classification



- Enhanced schlem canal filtration

Ab interno

Ab externo

Hydruss

Istent

HFDS

Trabectome

Kahook DB

Trab 360

ABIC

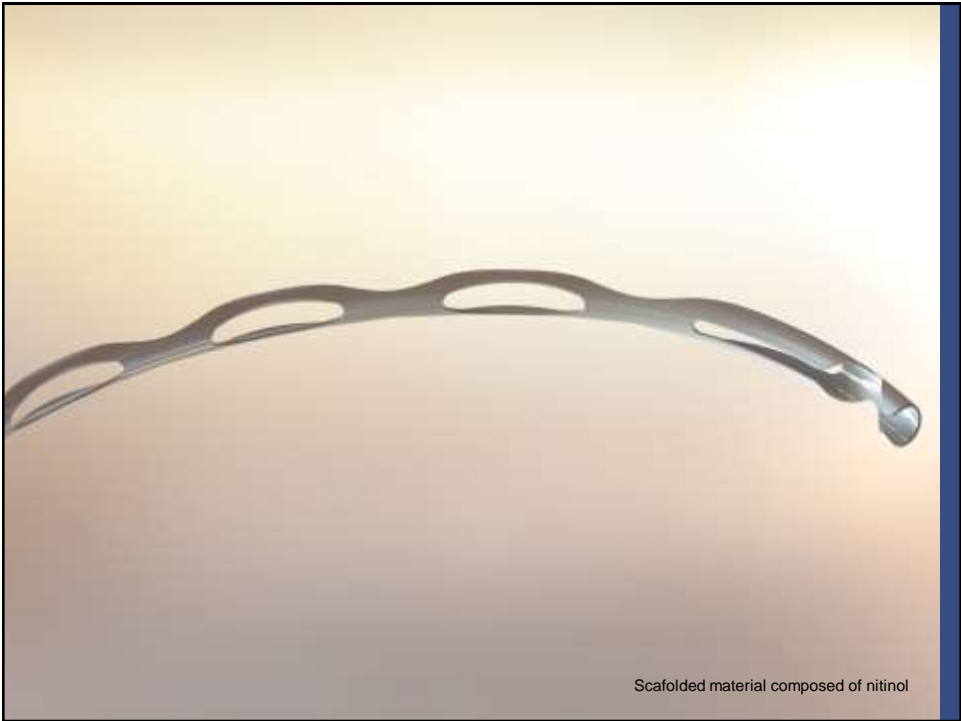
GATT

Canaloplasty

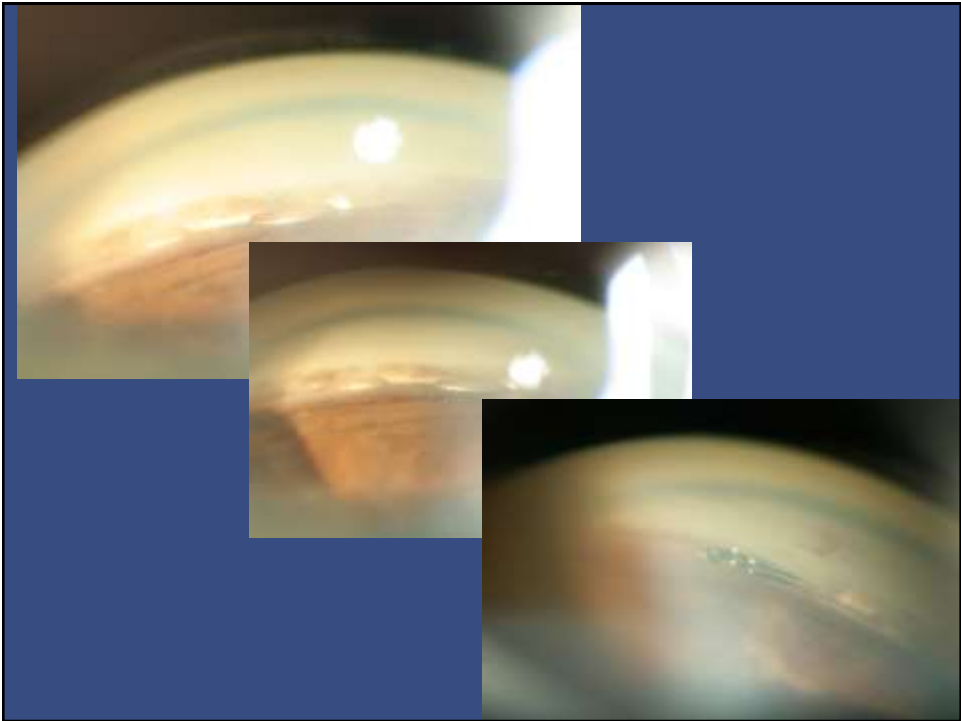
Canal expanders

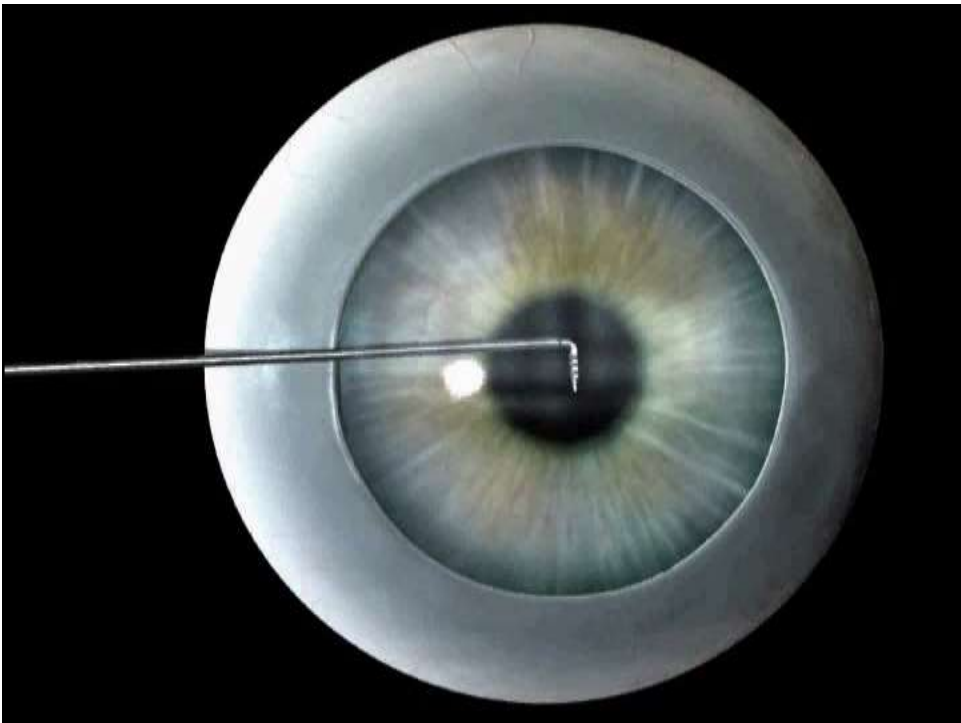
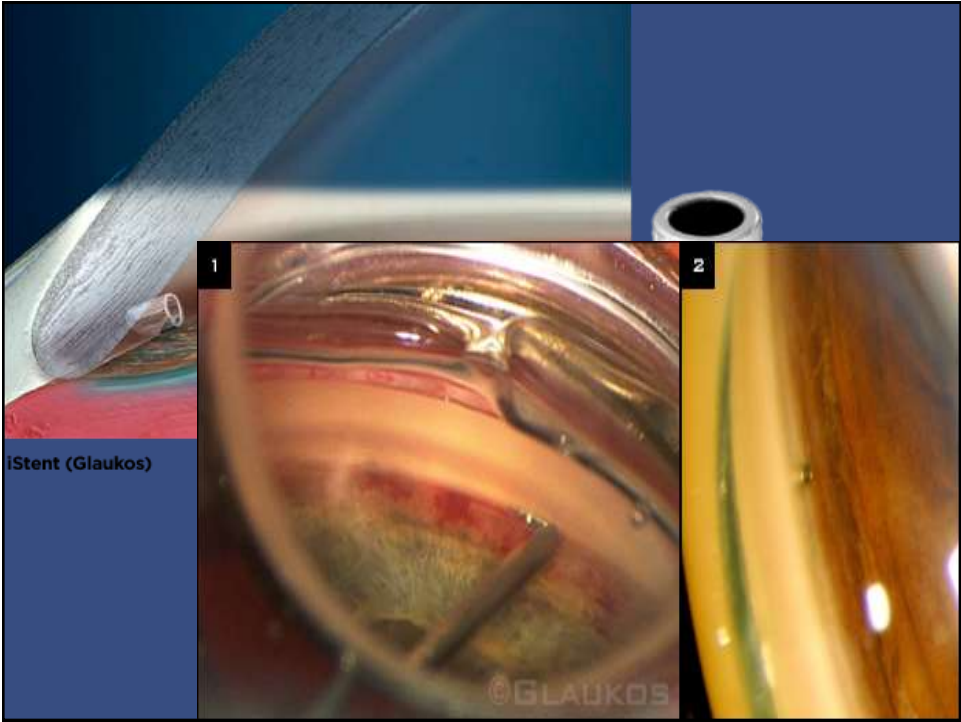
Viscocanalostomy

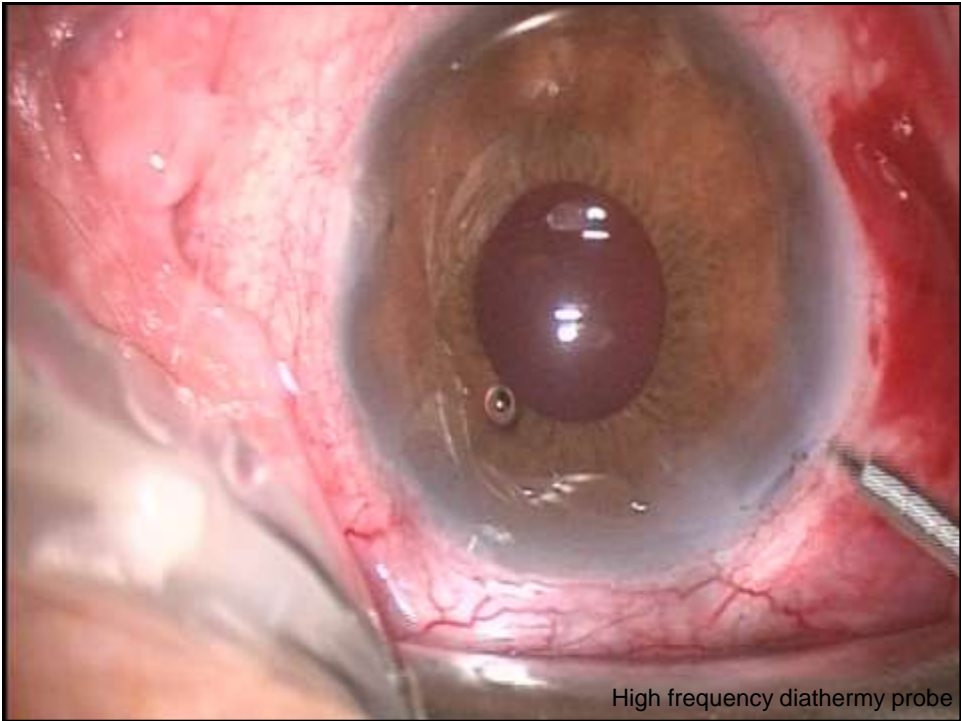




Scaffolded material composed of nitinol

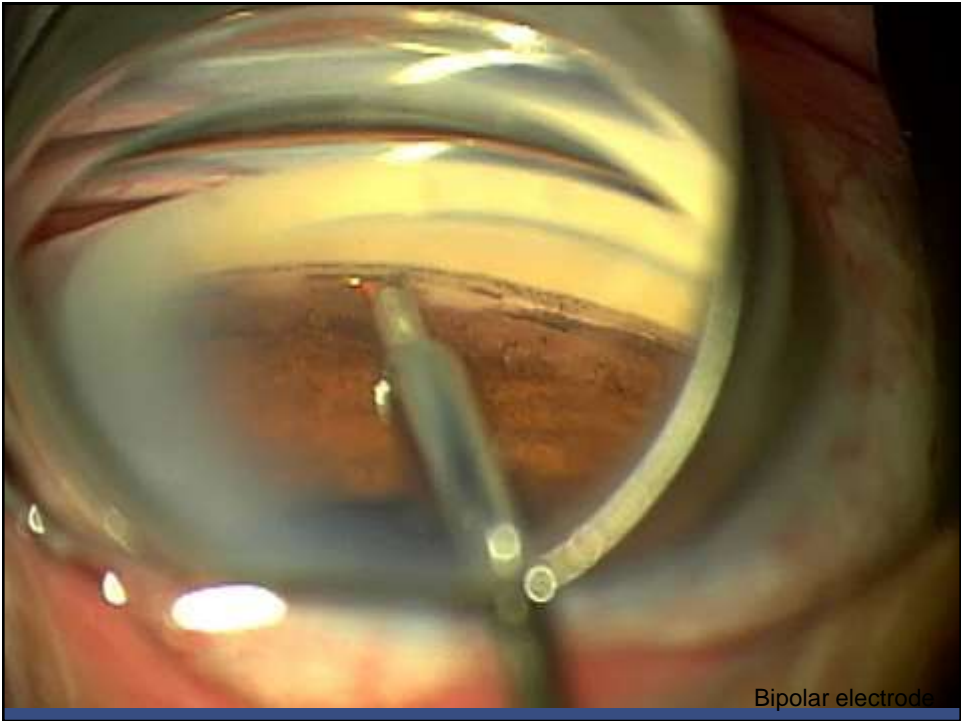
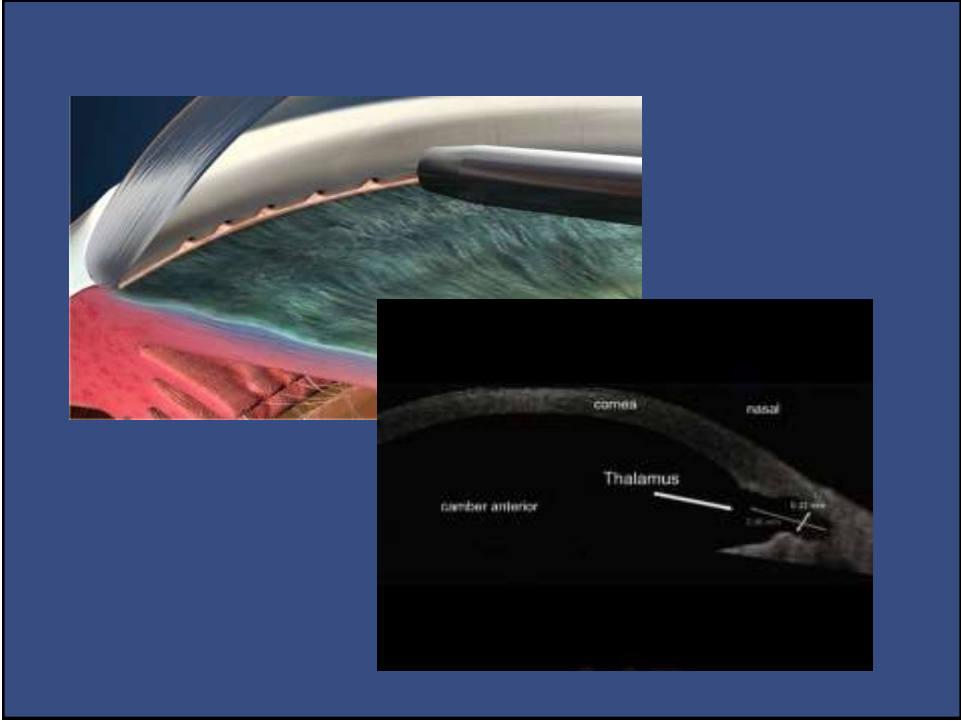


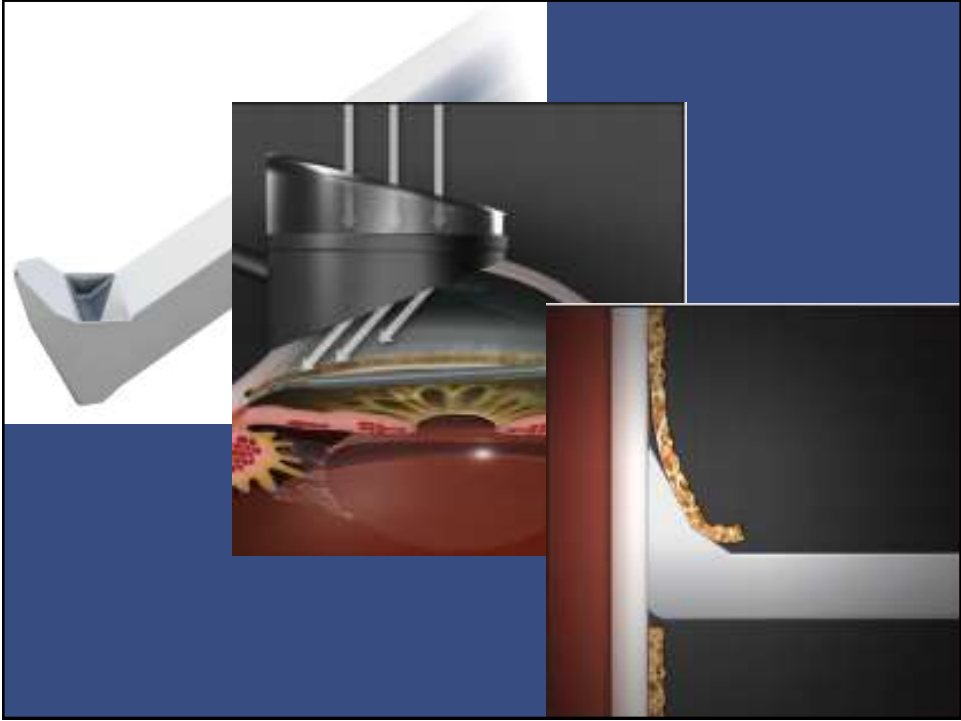




High frequency diathermy probe







# Ab interno Canaloplasty (ABIC)



## Purpose

- The purpose of this study was to to evaluate the safety and performance of the ABIC.

# Patients and Methods

- prospective, nonrandomized, noncomparative, clinical research study
- 27 consecutive patients (27eyes) adults (aged 18 years or above) of both sexes, with primary open-angle glaucoma or pseudoexfoliative glaucoma in the eye scheduled for surgery were enrolled in the study.
- Mean age  $\pm$  SD was 70.3 $\pm$ 16.1
- 16 Male Patients (59.4%)
- 9 combined procedures (40.6 %)

## Collectif

coté

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid d	18	66,7	66,7	66,7
g	9	33,3	33,3	100,0
Total	27	100,0	100,0	

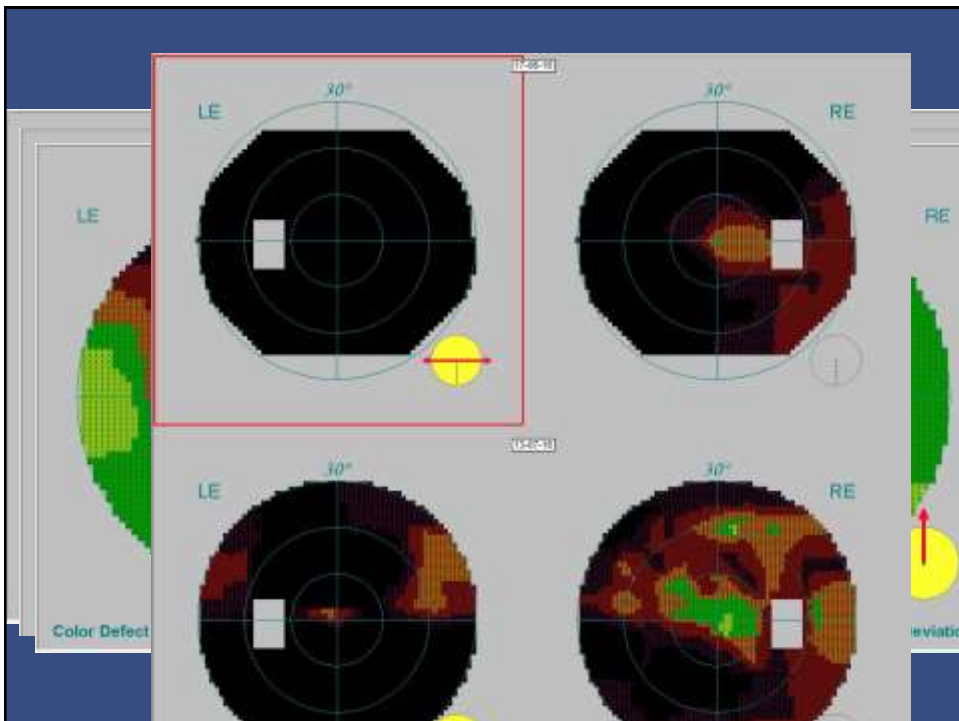
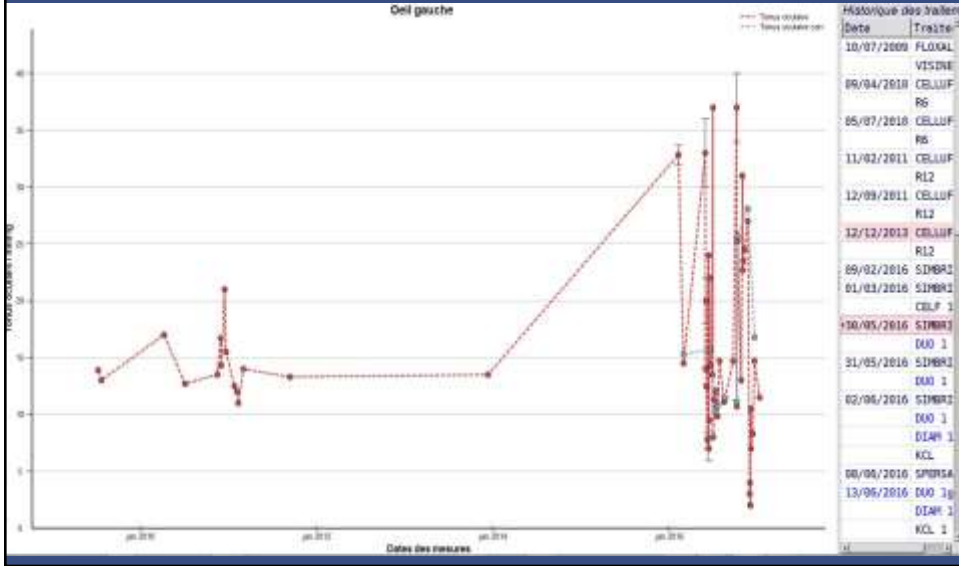
Homme/Femme

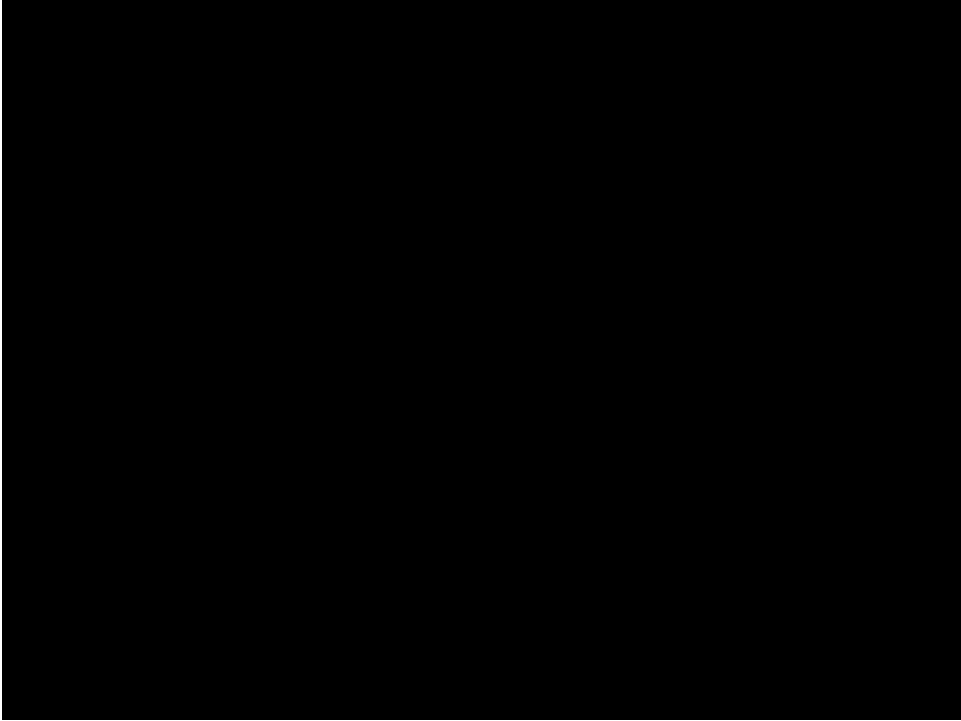
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid f	11	40,7	40,7	40,7
h	16	59,3	59,3	100,0
Total	27	100,0	100,0	

Opération Combinée

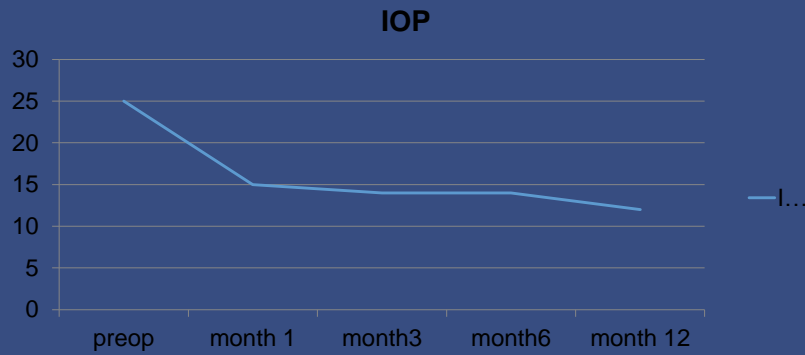
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Abic Simple	16	59,3	59,3	59,3
Combinée	11	40,7	40,7	100,0
Total	27	100,0	100,0	

# VF et Indications pour ABIC



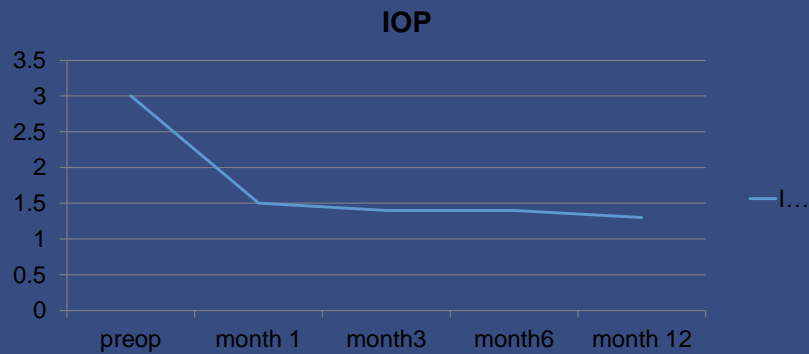


## Average IOP



The preoperative IOP of  $25 \pm 9.3$  mm Hg (mean  $\pm$  SD) dropped to  $14 \pm 3.4$  mm Hg at 6 months and  $12.1 \pm 4.8$  mm Hg at 12 months postoperatively

## Average usage of medications



preoperative use of hypotensive medications per patient dropped from an average of  $3.0 \pm 0.9$  to  $1.35 \pm 1.35$  at 12 months

# Results

- Significance
  - Type of glaucoma
  - Preop IOP
  - Phakic, pseudophakic
  - Combined
  - Campimtreric stage

## Type of glaucoma

ANOVA Table(a,b)

			Sum of Squares	df	Mean Square	F	Sig.
TO préopératoire * Type de Glaucome	Between Groups	(Combined)	1036,668	3	345,556	5,722	<b>,004</b>
		Linearity	3,986	1	3,986	,066	,800
		Deviation from Linearity	1032,681	2	516,341	8,549	,002
	Within Groups	<b>Report</b>	1389,093	23	60,395		
	Total		2425,761	26			
j1 * Type de Glaucome	Between Groups	(Combined)	82,007	3	27,666	,228	,876
		PEX	32,22	9	9,162	,390	,538
		Chronique angle ouvert	21,01	16	6,916	,147	,864
		pression normale	13,00	1	.	.	.
		cortisonique	38,00	1	.	.	.
j7 * Type de Glaucome	Between Groups	(Combined)	9,659	3	32,563	,556	,650
		PEX	25,08	27	9,659	,251	,780
		Deviation from Linearity	29,411	2	14,706	,251	,780
	Within Groups		1230,244	21	58,583		
	Total		1327,934	24			
m1 * Type de Glaucome	Between Groups	(Combined)	27,180	2	13,590	,696	,510
		Linearity	26,176	1	26,176	1,341	,260
		Deviation from Linearity	1,004	1	1,004	,051	,823
	Within Groups		390,246	20	19,512		
	Total		417,426	22			
m3 * Type de Glaucome	Between Groups	(Combined)	3,876	1	3,876	,188	,671
	Within Groups		288,208	14	20,586		
Total		292,084	15				

titats

a. With fewer than three groups, linearity measures for m3 \* Type de Glaucome cannot be computed.  
 b. Fewer than two groups - statistics for m9 \* Type de Glaucome cannot be computed.



# IOP Preop

Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
j1	TO<25	14	19,66	11,902	3,181
	TO>=25	13	16,58	8,997	2,495
j7	TO<25	14	17,61	7,688	2,055
	TO>=25	11	16,71	7,447	2,245
TO à la dernière consulte	TO<25	14	15,9143	6,59625	1,76292
	TO>=25	13	15,3846	5,33742	1,48033

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
j1	Equal variances assumed	,776	,387	,752	25	,459	3,073	4,086	-5,342	11,487
	Equal variances not assumed			,760	24,054	,455	3,073	4,043	-5,270	11,416
j7	Equal variances assumed	,026	,873	,296	23	,770	,905	3,056	-5,416	7,226
	Equal variances not assumed			,297	21,930	,769	,905	3,044	-5,408	7,218
TO à la dernière consulte	Equal variances assumed	,247	,624	,228	25	,821	-,52967	2,32059	-4,24967	5,30901
	Equal variances not assumed			,230	24,565	,820	-,52967	2,30202	-4,21568	5,27502

# Phakice or pseudophakic

Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
j1	Pseudophake	12	20,13	11,913	3,439
	Phake	15	16,62	9,386	2,424
j7	Pseudophake	11	16,95	4,871	1,469
	Phake	14	17,42	9,154	2,447
m1	Pseudophake	10	15,80	2,658	,841
	Phake	13	15,07	5,407	1,500
m3	Pseudophake	7	15,71	2,812	1,063
	Phake	9	14,41	5,454	1,818
TO à la dernière consulte	Pseudophake	12	16,8333	6,60349	1,90626
	Phake	15	14,7200	5,34485	1,38003

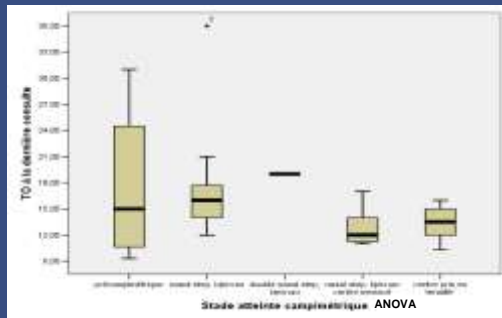
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
j1	Equal variances assumed	,064	,802	,856	25	,400	3,505	4,095	-4,928	11,938
	Equal variances not assumed			,833	20,640	,414	3,505	4,207	-5,254	12,264
j7	Equal variances assumed	2,010	,170	-,153	23	,880	-,467	3,060	-6,797	5,863
	Equal variances not assumed			-,164	20,582	,872	-,467	2,853	-6,408	5,475
m1	Equal variances assumed	2,871	,105	,391	21	,700	,731	1,869	-3,155	4,617
	Equal variances not assumed			,425	18,315	,676	,731	1,719	-2,877	4,338
m3	Equal variances assumed	1,064	,320	,573	14	,576	1,303	2,275	-3,577	6,183
	Equal variances not assumed			,619	12,461	,547	1,303	2,106	-3,266	5,873
TO à la dernière consulte	Equal variances assumed	,031	,862	,920	25	,366	2,11333	2,29732	-2,61808	6,84475
	Equal variances not assumed			,898	21,016	,379	2,11333	2,35337	-2,78053	7,00720

# Combined or not

Independent Samples Test

		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
j1	Equal variances assumed	2,028	,167	-,031	25	,975	-,131	4,201	-8,784	8,521
	Equal variances not assumed			-,034	24,930	,973	-,131	3,877	-8,117	7,855
j7	Equal variances assumed	1,263	,273	-,360	23	,730	-1,068	3,053	-7,384	5,249
	Equal variances not assumed			-,371	21,566	,714	-1,068	2,874	-7,035	4,900
m1	Equal variances assumed	2,175	,155	-,242	21	,811	-,460	1,902	-3,496	4,415
	Equal variances not assumed			-,274	20,520	,787	-,460	1,676	-3,030	3,949
m3	Equal variances assumed	,825	,379	-,363	14	,729	-,830	2,348	-4,207	5,867
	Equal variances not assumed			-,404	14,000	,693	-,830	2,056	-3,580	5,240
TO à la dernière consulte	Equal variances assumed	,523	,476	,460	25	,650	1,08125	2,35235	-3,76351	5,82601
	Equal variances not assumed			,428	16,287	,674	1,08125	2,52518	-4,26424	6,42674

# Campimetric stage?



		Sum of Squares	df	Mean Square	F	Sig.
Différence de TO entre première et dernière consulte	Between Groups	376,789	4	94,197	,823	,524
	Within Groups	2517,738	22	114,443		
	Total	2894,527	26			
TO à la dernière consulte	Between Groups	161,760	4	40,440	1,190	,343
	Within Groups	747,626	22	33,983		
	Total	909,385	26			
Diff. tt PréPost	Between Groups	11,397	4	2,849	1,923	,142
	Within Groups	32,603	22	1,482		
	Total	44,000	26			

## Results analysis

- Significance
  - Type of glaucoma NO
  - Preop IOP NO
  - Phakic, pseudophakic NO
  - Combined NO
  - Campimtreric stage NO

## Result Analysis

- IOP peak
  - Hypertensive stage from day 1 to 7
  - Diminution over time.

## Complications

- Intraoperative
  - Descemet membrane disinsertion
  - Intraoperative hyphaema
- Post opératoire
  - Hyphaema
  - Frequent IOP peaks in the first week
  - Incontrolable IOP in 2 cases where we had to perform a DS
  - Complicated cataract
  - 2 IOL subluxation and Artizan implantation in PEX

## Conclusion

- Rapid
- Decreases IOP
- Decreases medication
- Spare Conjunctiva
- No Ocular hypotention
- Expensive
- Doesnt replace filtering procedures
- Will have its place in the treatment armenterium of Glaucoma but its place is not yet defined