REFRACTIVE ERRORS AFTER SUBSCLERAL TRABECULECTOMY

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After successful trabeculectomy patients often complain of reduction in vision even after several weeks. Corneal astigmatism appears to be a major factor inducing this reduction in vision.

Surgically induced astigmatism after glaucoma filtration surgery affects much visual acuity secondary to significant changes in both corneal meridians (Akhtar, 2008)

PATIENTS
&
METHODS

Twenty (20) eyes with primary open-angle glaucoma without associated any ophthalmological diseases were included in this study and were not adequately controlled with maximally tolerated medical therapy.
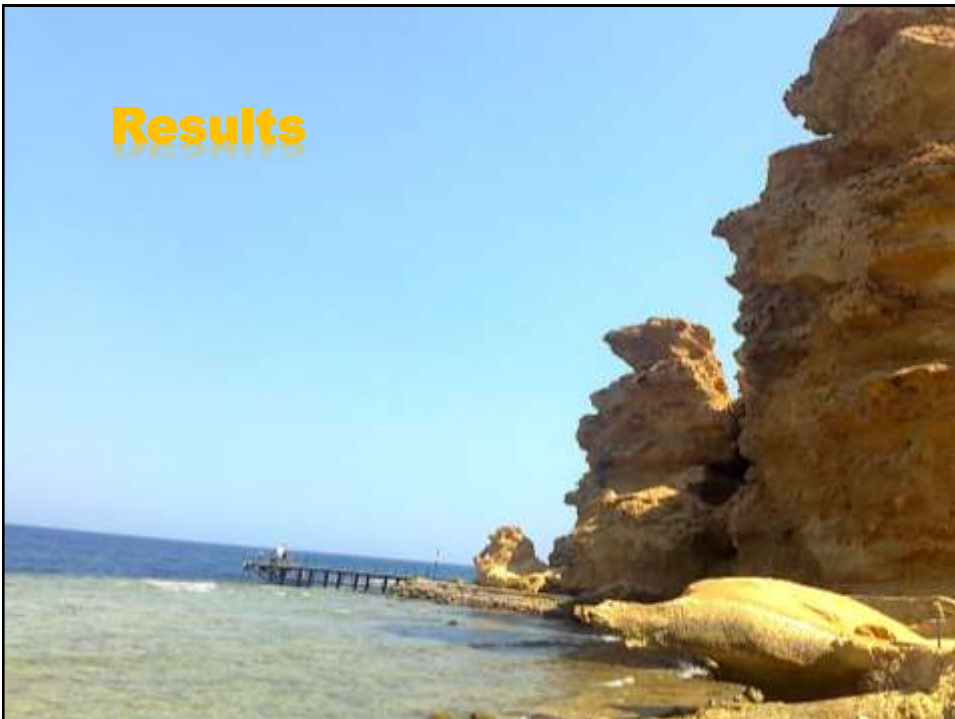
Patients were classified into two groups

Group 1:

Ten eyes were surgically managed by limbal based subscleral trabeculectomy.

Group 2:

Ten eyes were surgically managed by fornix based subscleral trabeculectomy.

Results

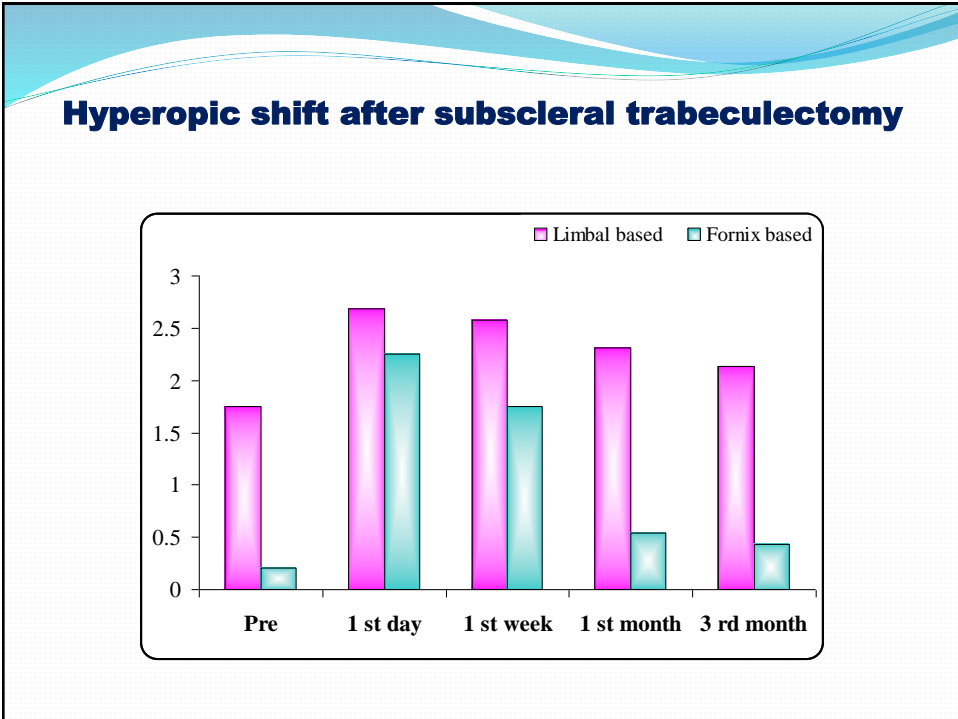## Cases no. 8 and 17 are Examples Myopic Shift After Subscleral Trabeculectomy

	Preoperative Spherical Refraction	1 Day After SST	1 Week After SST	1 Month After SST	3 Months After SST
Case No. 8	-2.0 D	-3.5 D	-3.5 D	-2.0 D	-2.0 D
Case No. 17	+1.0 D	-1.0 D	-1.0 D	+1.0 D	+1.0 D

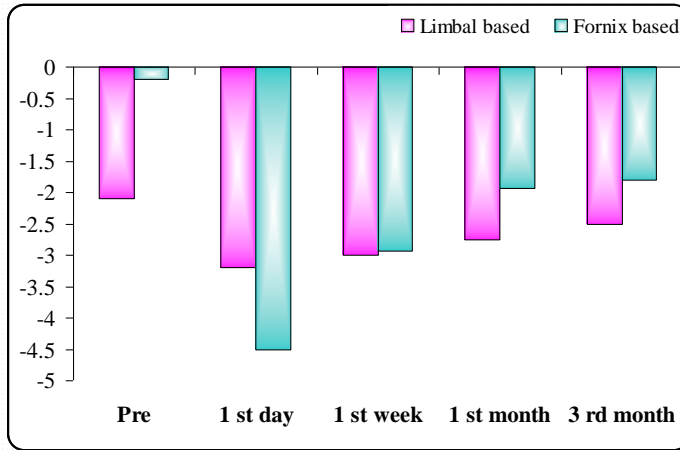## Myopic changes after subscleral trabeculectomy

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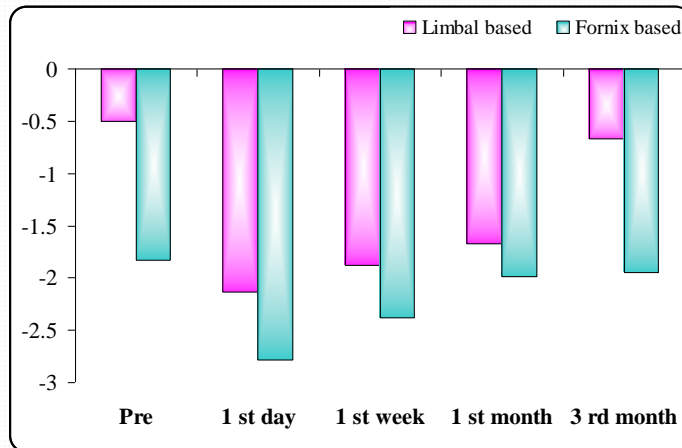
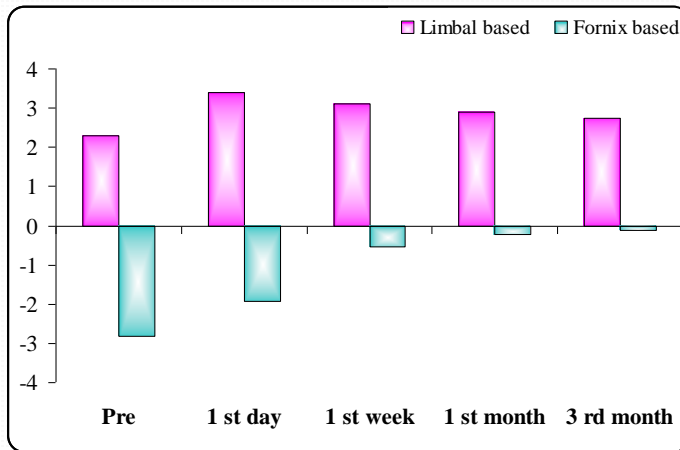## Cases no. 4 and 12 are Examples Hyperopic Shift after Subscleral Trabeculectomy

	Preoperative Spherical Refraction	1 Day After SST	1 Week After SST	1 Month After SST	3 Months After SST
Case No. 4	+2.5 D	+4.5 D	+4.5 D	+2.5 D	+2.5 D
Case No. 12	0.0 D	+2.25 D	+0.75 D	0.0 D	0.0 D

Hyperopic shift after subscleral trabeculectomy

Myopic astigmatic shift after subscleral trabeculectomy

Legend: ☐ Limbal based ☐ Fornix based

Y-axis values: 0, -0.5, -1, -1.5, -2, -2.5, -3, -3.5, -4, -4.5, -5

X-axis categories: **Pre**, **1 st day**, **1 st week**, **1 st month**, **3 rd month**

Hyperopic astigmatic shift after subscleral trabeculectomy

Legend: ☐ Limbal based ☐ Fornix based

Y-axis values: 4, 3, 2, 1, 0, -1, -2, -3, -4

X-axis categories: **Pre**, **1 st day**, **1 st week**, **1 st month**, **3 rd month**

Effect of subscleral trabeculectomy on BCVA
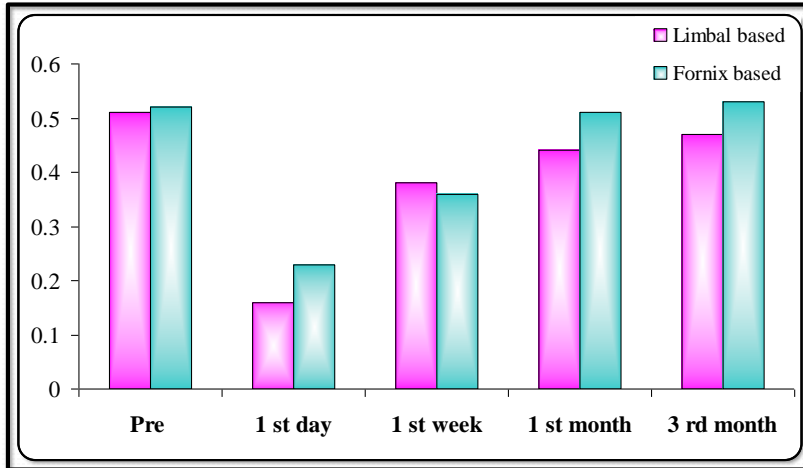
Effect of subscleral trabeculectomy on IOP
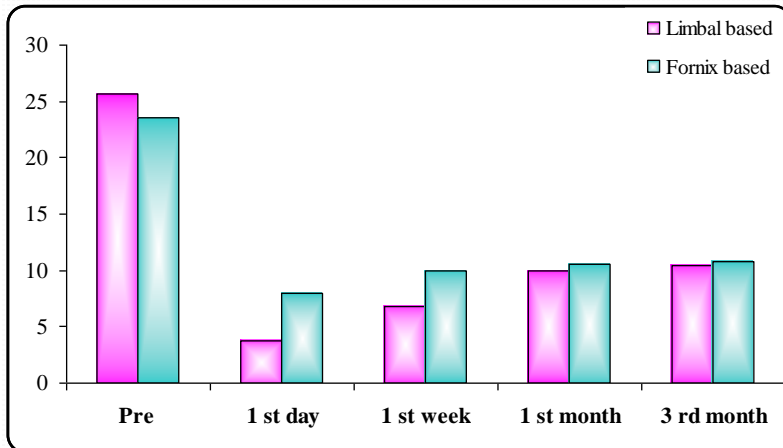
CONCLUSIONS

❖ Refractive errors after trabeculectomy leads to drop of visual acuity which in turn may adversely affect the compliance of patients towards surgical treatment.

❖ Fornix-based SST is associated with more postoperative astigmatism than limbal-based SST.

❖In most cases, spherical errors after trabeculectomy returned nearly to the preoperative state.

❖ In some cases, astigmatic errors after trabeculectomy did not return completely to the preoperative state.

THANK
YOU