

## PAPER PRESENTATIONS

### GLAUCOMA

#### Should Concern For Snuff-Out Phenomenon Deter Ophthalmologists From Glaucoma Surgery In Patients With Advanced Glaucoma?

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**Introduction:** Snuffout phenomenon, an irreversible unexplained loss of central vision in eyes with advanced glaucoma following filtration surgery, is a source of concern for ophthalmologists managing advanced glaucoma patients requiring filtration surgery.<sup>1</sup> This concern could deter the ophthalmologist from offering trabeculectomy to patients with advanced glaucoma who need surgery. Most glaucoma patients in Sub-Saharan Africa present at the advanced stage of the disease with poor medication adherence driven by prohibitive cost.<sup>2,3</sup> With advancements in glaucoma filtration surgeries, controversies have arisen as to the actual existence of this phenomenon.<sup>4</sup> This study sought to determine the prevalence of snuffout phenomenon among glaucoma patients with advanced glaucoma who have had trabeculectomy.

**Methods:** This was a descriptive cross-sectional study of consenting consecutive glaucoma patients who received trabeculectomy+mitomycin C (MMC) surgery at The Eye Specialists Hospital, Enugu Nigeria between 2021 and 2023. Inclusion criteria included consenting patients with mean deviation on Humphrey visual field of -12dB or worse who had a pre-operative visual acuity better than 6/60. Excluded from the study were patients who

had MD better than -12dB, preoperative visual acuity of 6/60 or worse and those who withheld consent for the study. Patients who had explainable causes of loss of vision as a complication of the surgery were included in the study. They were however excluded from the definition of snuff out syndrome.

Snuffout was defined as decrease in visual acuity to counting fingers or worse, persisting till 3-months post-surgery after other causes of reduction in vision had been excluded.<sup>4</sup> Data was collated and analysed using SPSS version 23. Comparisons between means were done using T-test or Analysis of Variance (ANOVA). P value <0.05 was considered statistically significant.

**Results:** A total of 79 eyes of 72 patients were studied comprising of 45 (62.5%) males and 27 (37.5%) females aged 15- 84 years; mean age 61.4±14.1 years. Fifty-five eyes of 50 patients underwent only trabeculectomy +MMC, 17 eyes of 15 persons had combined small incision cataract surgery and trabeculectomy +MMC while 7 eyes of 7 patients had combined phacoemulsification and trabeculectomy +MMC. Forty-four (55.7%) were right eyes while 35 (44.3%) were left eyes. Mean preoperative and post-operative mean deviation scores were -22.9±3.7dB and -22.9 ± 6.8dB respectively.

At 3 months no eye, 0(0.0%) had snuff out phenomenon (Table 1). Two (2.5%) eyes that had visual acuities of counting finger at 3 months postop had developed cataract and were excluded from the definition of snuff-out phenomenon. One (1.3%) patient who underwent phacoemulsification +Trabeculectomy had VA <3/60 at 1 month but vision had improved at 3 months. Four (5.1%) patients that underwent combined small incision cataract surgery and trabeculectomy+MMC had VA <3/60 on the first postoperative day but had improvement in their vision at 3 months post-op. There was no statistically significant difference in mean logMAR VA across procedure groups before and after Surgery; ANOVA F value =1.269, p= 0.287 (Table 2).

**Table 1: Distribution of eyes by visual acuity group before and after surgery**

Preoperative VA*	Number of Patients	Frequency (%)
Normal Vision	13	16.5
Mild Visual Impairment	29	36.7
Moderate Visual Impairment	37	46.8
Severe Visual Impairment	0	0
Blindness	0	0
VA* - 1DAY PO**		
Normal Vision	6	7.6
Mild Visual Impairment	31	39.2
Moderate Visual Impairment	35	44.3
Severe Visual Impairment	0	0
Blindness	7	8.9
VA*- 1 MONTH PO**		
Normal Vision	14	17.7
Mild Visual Impairment	21	26.6
Moderate Visual Impairment	41	51.9
Severe Visual Impairment	0	0
Blindness	3	3.8
VA*- 3 MONTH PO**		
Normal Vision	15	19.0
Mild Visual Impairment	25	31.6
Moderate Visual Impairment	37	46.8
Severe Visual Impairment	0	0
Blindness	2	2.5

\*VA= Visual acuity (Based on WHO classification<sup>5</sup>); \*\*PO= Post-Operative

**Table 2: Mean LogMAR Visual acuity before and after Surgery**

Mean LogMAR VA	PROCEDURE			All procedures Overall	Test statistics
	TRAB ALONE	SICS/TRAB	PHACO/TRAB		
Pre-Op	0.47±0.26	0.65±0.16	0.44±0.18	0.51±0.25	ANOVA F =
1 Day Post-Op	0.56±0.32	1.05±0.61	0.71±0.56	0.68±0.46	1.269
1 Month Post-Op	0.57±0.32	0.63±0.40	0.61±0.57	0.59±0.36	p = 0.287
3 Months Post-Op	0.57±0.35	0.60±0.28	0.37±0.26	0.56±0.33	

Trab = Trabeculectomy +MMC.

SICS/TRAB = Small Incision Cataract Surgery/Trabeculectomy +MMC

Phaco/Trab= Phacoemulsification surgery/Trabeculectomy +MMC

**Conclusion:** Results of this study indicate that snuffout phenomenon is rare among our patients. This finding is encouraging, considering the high prevalence of glaucoma in our environment and the frequently late presentation of our patients with advanced glaucoma.<sup>6</sup> A study in India,<sup>7</sup> and others in Greece<sup>8</sup> and Turkey<sup>9</sup> similarly reported no case of snuffout phenomenon in their patients. A cause of significant reduction in vision identified in a few post-trabeculectomy patients in this study was development of cataract. This study suggests that concern for snuff-out phenomenon should not deter ophthalmologists from offering surgery to patients with advanced glaucoma.

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## Ophthalmic Simulation-based Surgery Digital Class Lab at University of Abuja Teaching Hospital (UATH): The setting-up, GLASS training and participants' feedback

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**Introduction:** Of about 250,000 ophthalmologists worldwide, there are 2,700 in Sub-Saharan Africa (SSA), a ratio of 1.8 ophthalmologists per million population<sup>1,2</sup>. In addition to the low numbers, ophthalmic surgical proficiency is a challenge.

Treatable by surgery, cataract is the most common cause of blindness affecting 12.6 million of the 36-million blind people worldwide. It is the main cause of vision loss in Nigeria<sup>1</sup>. Small-incision-cataract-surgery (SICS) is a widely accepted, appropriate, affordable procedure and delivers high-quality vision outcomes<sup>3</sup>. Similarly, for