

## Outcome of Trabeculectomy in Sokoto

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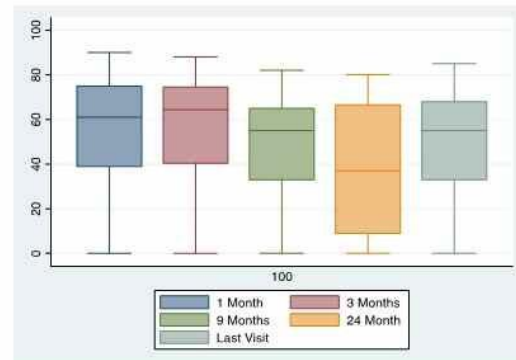
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**Introduction:** Glaucoma is the second leading cause of blindness worldwide<sup>1</sup> and the leading cause of irreversible blindness accounting for 6.6% of 39 million global burden of blindness<sup>2</sup>. Trabeculectomy is said to be better than both medical and laser therapies in IOP control especially among Africans where compliance and availability of drugs are limited<sup>3-5</sup>. The aim of this study was to assess the outcome of trabeculectomy in patients diagnosed with glaucoma between May 2008 and December 2015 in Usmanu Danfodiyo University Teaching Hospital, Sokoto and Specialist Hospital, Sokoto.

**Methods:** This was a retrospective case series. The medical records of all glaucoma patients who had trabeculectomy between May 2008 and December 2015 in the two facilities were reviewed. Demographic and clinical data were retrieved. All glaucoma patients aged 9 years and above who had trabeculectomy or combined glaucoma-cataract surgery were eligible for inclusion in the study. Ethical approval was obtained from the Ethics and Research Committee of the Usmanu Danfodiyo University Teaching Hospital, Sokoto. All patients had a Cairns-type trabeculectomy.<sup>6</sup> Some surgeries were performed with the use of antimetabolites- Mitomycin C (MMC) or 5 Fluorouracil (5FU) based on availability of the antimetabolites at the time of surgery. Two surgeons performed all the surgeries. The primary outcome measure was percent IOP reduction from baseline during the post-operative period. Data was analysed using Stata® 14 statistical software.

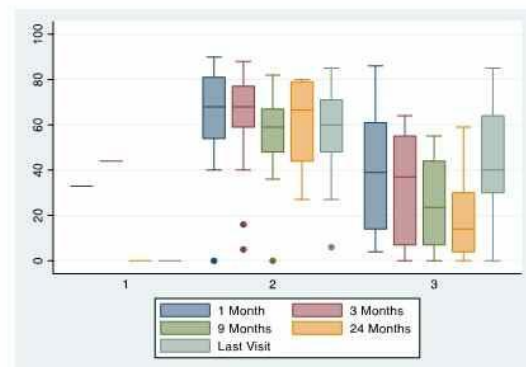
**Results:** Thirty-one eyes of thirty patients met the inclusion criteria. The age range of the patients was between 9 and 78 years; with mean age of 47.8 (SD 17.4). Females constituted 32.3% (10 eyes). The number of eyes with follow up IOPs were 23 (74%) at 1 month, 13 (42%) at both 9 and 24 months postoperatively. The mean IOP for all eyes

preoperatively was 27.9 mmHg (SD 10.9); while that of the last follow up visits (irrespective of postoperative duration) for all patients was 12.4 mmHg (SD 5.8). There was a gradual decline in the percent IOP reduction during the follow up period. The average postoperative IOP reduction ranged from 40% - 70% in the 1<sup>st</sup> three months declining to 10% - 65% by 24 months, Figure 1.



**Fig. 1:** Percent IOP reduction post-trabeculectomy and combined procedures in Sokoto, Nigeria

The effective percent IOP reduction was lower with the combined procedure (trabeculectomy and cataract surgery) compared to trabeculectomy with mitomycin (MMC), Figure 2.



**Fig. 2:** Percent IOP reduction by type of surgery. (1= trabeculectomy without MMC/5FU, 2 = trabeculectomy with MMC, 3=Combined procedure)

**Discussion:** There was male preponderance in this study but this was not statistically significant which is similar to findings by Adegbehingbe<sup>7</sup> in Ife, Nigeria and Mielke in Lagos<sup>8</sup> but differs from findings in Ago-Iwoye, Nigeria<sup>9</sup>. The study findings compare to that reported in Ibadan<sup>10</sup> where the percent IOP reduction was said to have exceeded

50% at 1 year postoperatively. Both studies demonstrate the potential efficacy of trabeculectomy in IOP control among Nigerians. Similar results were also reported from other Nigerian studies<sup>7,11</sup>. The observed steady decline in percentage IOP reduction over time may possibly be due to fibroblastic proliferation and sub-conjunctival fibrosis; as well as the higher loss to follow up with longer duration postoperatively. Like the findings of this study, Naveh et al<sup>12</sup> and Friedmann et al<sup>13</sup> also reported that the mean reduction in IOP was better in eyes that had trabeculectomy with MMC compared to combined trabeculectomy and cataract surgery.

**Conclusion:** Trabeculectomy with MMC appears to have a good IOP control in the study population and is comparatively better than combined cataract-trabeculectomy procedures.

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