

Advantages of Simultaneous Bilateral Trabeculectomy over Consecutive Bilateral Trabeculectomy in Ibadan.

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A retrospective study of 26 patients who underwent simultaneous bilateral trabeculectomy over a 5 year period was reviewed. Advantages of simultaneous bilateral trabeculectomy include a shorter stay in hospital compared to consecutive bilateral trabeculectomy, as well as a single general anaesthetic if required and this reduces the risk of re-exposure to anaesthetic agents within a short time. The turn-around time in theatre is also improved compared with separate operations. Preoperatively, 20 of the patients (77%) were on two or more antiglaucoma therapy. 69% of the patients (18 patients) spent 7 days in hospital, from admission to discharge, the normal duration of hospital stay for unilateral trabeculectomy. Only 31% spent over one week, none stayed in hospital beyond two weeks. Post operative complications occurred in 8 eyes (15.4%) but none led to blindness. Visual outcome was good in these patients as none had reduced vision postoperatively compared to preoperatively, 3 eyes had an improvement in visual acuity postoperatively.

KEYWORDS: Glaucoma, trabeculectomy

Simultaneous bilateral intraocular surgery is avoided as much as possible by ophthalmic surgeons. This is due to the fear of bilateral complications leading to bilateral blindness. Simultaneous bilateral cataract surgery was first suggested in 1955¹, but not until recently was more work done on it^{2,3}.

It has been found that simultaneous intraocular surgery gives a shorter hospital stay and reduces costs compared with separate operations^{2,4}. Other advantages are single general anaesthetic^{2,4}, greater patient satisfaction⁴ with quicker binocular visual rehabilitation⁴ and reduced waiting list^{4,5,6}.

Antiglaucoma surgery presents a stronger case for simultaneous bilateral surgery than cataract extraction as patients could go blind in a short period due to raised intraocular pressure. In our environment, most of our patient cannot afford the cost of surgery to the eyes separately and so, performing the operation at one sitting is definitely advantageous to them.

Materials and Methods

All patients who underwent bilateral trabeculectomy in a 5 year period of January 1990 and January 1995 were identified from the theatre lists. The case notes of these patients were then analysed and the following data collected: Age; sex; type of glaucoma; duration of the disease pre-operatively; number of antiglaucoma drugs; intraocular pressures pre-operatively, first post operative visit, 6 months post-operatively and the last visit before the study started. Also included were duration of hospital stay, the post operative complications and visual acuities pre-operatively, immediately post operatively and at the last visit.

Results

190 trabeculectomies were performed during the 5 year study period of 1990-1995. 26 patients had simultaneous bilateral trabeculectomies making 52 eyes (27.4% of all trabeculectomies). There

were 21 males and 5 females, a male: female ratio of 4:1. The age range of the patients was 10 years to 72 years, Table I 92.3% of the patients were above 30 years of age. 22 years were diagnosed as having bilateral chronic open angle glaucoma while 4 had bilateral chronic narrow angle glaucoma. The duration of glaucoma ranged between 3 weeks to 10 years, with 10 patients (38.5%) being less than 1 year duration. 6 patients were already on one antiglaucoma drug pre-operatively while 11 and 9 patients were on 2 and 3 antiglaucoma drugs

Table I: Age Range

Age (years)	Patients
10 - 20	2
21 - 30	0
31 - 40	2
41 - 50	4
51 - 60	14
61 - 70	2
71 - 80	2
Total	26

respectively. The drugs were Timoptol 0.5%, Pilocarpine 2-4% and Acetazolamide (Diamox). Visual acuities at presentation and post operatively (last visit prior to study) are recorded on Table II. It is of note that 3 eyes had an improvement in vision following surgery, all the other eyes retained the range

Table ii: Visual Acuity

	At presentation	Post-operatively
6/9 or better	11	12
6/12 - 6/36	14	15
6/60 - CF	14	15
HM or worse	13	10
Total	52	52

of vision they had preoperatively. Intraocular pressures (IOP) ranged between 22-50mm hg at presentation, 20 patient (77%) having an initial IOP of greater than 30 mmHg. in both eyes. The immediate post-operatively IOP and 6 months post-operative IOP are seen on Table III. 3 eyes had IOP greater than 22mm hg immediately postoperatively, 24mmHg, 32mmHg and 44mmHg which required additional antiglaucoma therapy to reduce the IOP. By the end of the study, 15 patient required additional antiglaucoma therapy to maintain the IOP within normal limits. 16 patients had their surgery performed under local anaesthesia, while 10 had their under general anaesthesia. Complications in these patients included hyphaena (3 eyes) shallow anterior chamber (2 eyes), cystic bleb (2 eyes) and endophthalmitis (1 eye) which settled down on in-

Table iii: Intraocular Pressures Immediate Post-op 6 months Post-op

Less than		
10mmHg	30	13
11 - 17 mmHg	19	32
18 - 22 mmHg	0	6
23 - 27 mmHg	1	1
Greater than 28 mmHg	2	0
	52	52

tensive parenteral, subconjunctival and topical antibiotics. This eye had a vision of light perception at presentation and maintain the same level of vision post-operatively.

18 patients (69%) spent 7 days in hospital, from admission to discharge, the normal duration of hospital stay for unilateral trabeculectomy. Only 31% of the patients spent over one week in hospital, none stayed beyond 2 weeks.

Duration of follow up ranged between 6 months and 5 years post-operatively.

Discussion

Simultaneous bilateral intraocular surgery has a potential disadvantage of the risk of serious intra or post-operative complications leading to bilateral blindness. These complications have rarely been substantiated as only a few cases have been reported^{7,8}. Bilateral endophthalmitis has been reported in one case following simultaneous cataract extractions⁷. and bilateral expulsive haemorrhages have also been reported in solitary case after simultaneous iridencleisis without sutures⁸. In our study, only one case of endophthalmitis occurred in one eye (1.9%) which was successfully treated with intensive parenteral, subconjunctival topical antibiotics.

The incidence of expulsive haemorrhage following trabeculectomy has been reported to be 1.6%⁹. In our study no patient had expulsive haemorrhage, although this study is too small to make a firm assumption as to its incidence in our environment. Trabeculectomy is often performed under local anaesthetic, but if a general anaesthetic is required (at the request of either the surgeon or the patient then simultaneous surgery has the advantage of a single anaesthetic⁶. This reduces the risk of re-exposure to anaesthetic agents within a short time, and should also improve turn around time in theatre compared with separate operations⁶.

Simultaneous bilateral trabeculectomy also gives the advantage that the patient stays the same number of days in hospital (7 days) as the unilateral ones. Only 31% of the patients in this study stayed longer than one week, none stayed beyond 12 weeks. Intraocular pressure control was quite good in this study, 94% of the patients attaining IOP

of below 17 mmHg immediately postoperatively, although this dropped to 86.55 at the six month follow up visit. It is of note that 15 patients required additional antiglaucoma therapy to maintain the IOP at a normal level at subsequent clinic visits. This is sizeable number requiring drugs post-operatively which are quite expensive. Further studies will have to be undertaken to find what makes trabeculectomies in blacks successful enough not to require additional therapy¹⁰.

Post operative complications occurred in 8 out of 52 eyes in keeping with other studies¹¹ and all resolved after treatment except the cystic blebs in 2 eyes with well controlled IOP.

In conclusion, simultaneous bilateral trabeculectomy in our environment creates an avenue whereby our indigent patients could have surgery to both eyes at the cost of one operation, if the operation is carefully performed in a complete aseptic theatre environment, as well as having to pay for one hospital stay instead of two.

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