Sir, Diode laser transscleral cyclophotocoagulation for the treatment of glaucoma in East Africa

This is the first report of diode laser transscleral photocoagulation (TSCPC)^{1–5} performed in an African setting by a local team. We retrospectively analysed the records of patients who underwent TSCPC at Dar es Salaam Comprehensive Community Based Rehabilitation for Tanzania Disability Hospital between 10/2007 and 02/2011.

All patients had glaucomatous optic disc changes and intraocular pressure (IOP) > 21 mm Hg. All visual acuities were included. TSCPC (Oculight SLx) was performed by ophthalmologists or assistant medical officers, under retrobulbar anaesthesia, using a G-probe (Iris Medical Instruments, Mountain View, CA, USA). The probe was placed 1–2 mm posterior to the corneoscleral limbus. Power was initially set at 1500 mJ for 1500 msec. These parameters were increased until an audible ‘pop’ and then adjusted to a subthreshold level. This practice ensured sufficient energy application since the probes were reused with consequent optic fiber damage.

In all, 179 patients underwent the procedure. In cases with bilateral laser (N = 3), only the right eye was included. Forty-nine (27%) had follow-up (Figure 1). Twenty-eight (57%) were male. Mean age was 60 ± 14 years and mean preoperative IOP was 53 ± 12 mm Hg. Thirty-four patients (69%) had no perception of light, the

others having vision between hand movements and 6/18 (Table 1). Twenty had two and eleven had three postoperative visits. Table 2 shows the interval between TSCPC and postoperative review. Nine (18%) eyes received two TSCPC treatments. The characteristics of laser treatments and the IOP levels at different follow-up visits are summarized in Table 3. Twenty-two patients

Table 2 Interval in months (N, %) between the 1st diode laser TSCPC treatment and the three postoperative visits and ratio of patients with IOP > 21 mm Hg (n, %) for each postoperative visit

Time in months	Postoperative 1 N (%) IOP > 21 n (%)	Postoperative 2 N (%) IOP > 21 n (%)	Postoperative 3 N (%) IOP > 21 n (%)
No data available	6 (12%)	2 (11%)	2 (18%)
< 1	3/6 (50%)	2/2 (100%)	1/2 (50%)
1–3	25 (51%)	7 (39%)	1 (9%)
3–6	12/25 (48%)	2/7 (28%)	0/1 (100%)
6–9	6 (12%)	2 (9%)	2 (18%)
9–12	5/6 (83%)	1/2 (50%)	1/2 (50%)
12–18	7 (14%)	4 (22%)	1 (9%)
18–24	5/7 (71%)	2/4 (50%)	1/1 (100%)
> 24	2 (4%)	1 (5%)	2 (18%)
Total	1/2 (50%)	1/1 (100%)	0/2 (0%)
	2 (4%)	1 (5%)	—
	1/2 (50%)	0/1 (0%)	2 (18%)
	—	—	2/2 (100%)
	1 (2%)	2 (11%)	—
	1/1 (100%)	0/2 (0%)	—
	—	1 (5%)	1 (9%)
	—	1/1 (100%)	1/1 (100%)
Total	49 (100%)	20 (100%)	11 (100%)
	28/49 (57%)	9/20 (45%)	6/11 (54%)

Table 3 The characteristics of laser treatments and the IOP levels at different follow-up visits

	N	Range	Min	Max	Mean	Std. deviation
Age (years)	49	70	12	82	60.4	14.2
Preoperative IOP (mm Hg)	47	55	20	75	53.1	12.1
Power (mJ) 1st laser	37	1900	900	2800	1567.0	301.0
Duration (msec) 1st laser	34	8800	200	9000	3335.2	2226.2
Shots 1st laser	39	47	4	51	30.7	12.3
Total power (J) 1st laser	32	510	15	525	155.6	106.7
Power (mJ) 2nd laser	6	700	1050	1750	1416.6	250.3
Duration (msec) 2nd laser	6	8700	300	9000	3800.0	3397.0
Shots 2nd laser	7	37	19	56	41.5	11.9
Postoperative visit 1 IOP (mm Hg)	49	64	0	64	26.5	17.1
Postoperative visit 2 IOP (mm Hg)	20	56	4	60	23.3	14.5
Postoperative visit 3 IOP (mm Hg)	11	58	2	60	25.0	19.0

Figure 1 Flowchart of patients treated with diode laser TSCPC.

Table 1 Visual acuity in diode laser-treated eyes (NPL: no perception of light, HM: hand movements, CF: counting fingers)

	Frequency (N)	Percent (%)
NPL	34	69
HM	7	14
CF 1 m	3	6
CF near	2	4
CF 2 m	1	2
6/18	1	2
No data	1	2
Total	49	100

Figure 2 Mean IOP and 95% confidence intervals before and after diode laser TSCPC.

(45%) had systemic hypertension (HTN) and eight (16%) had both HTN and diabetes mellitus.

Postoperative IOP was significantly lower ($P < 0.01$). At the first postoperative visit, 21/49 (43%) patients had an IOP of ≤ 21 mm Hg and 25/49 (51%) had $> 50\%$ reduction in IOP (Figure 2). There was a strong correlation between the energy used and the percent IOP reduction at postoperative visit 1 (Pearson correlation -0.443 , $P = 0.016$). Analysis of variance did not identify higher preoperative ($F = 0.7511$, $P = 0.48$) or postoperative IOP ($F = 1.449$, $P = 0.25$) in the groups with systemic disease. In all, 4/49 (8%) patients had IOP < 5 mm Hg. Three of these eyes were NLP before TSCPC. No choroidal hemorrhage, retinal or choroidal detachment was recorded.

Conflict of interest

The authors declare no conflict of interest.

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Sir,

This is a letter to the editor

In *Eye* 2012 (correspondence section), there is a letter written by B Drury and F Imrie¹ which I would like to address. In this correspondence, they describe an unfortunate accident in which the parent of a child undergoing vision therapy was struck by a screw when performing tasks with a ball attached to a string. The authors use this as an opportunity to strike out at all of behavioural optometry, calling into question the methods they use; they even go one leap forward and question the efficacy of vision therapy.

The question at hand is not the efficacy of the procedures used, but the obvious bias on the part of the authors in this attack. When performing a therapy task, no activity is failsafe. This is true for vision therapy, occupational therapy, physical therapy, and so on. If a patient receiving orientation and mobility training after losing sight bangs into something and gets a cut, should we then question the efficacy and safety of that type of training as well?

In closing, while I am sorry to hear of the incident that took place, I implore the authors and readers to simply look up the word 'accident' in the dictionary or online.

Conflict of interest

The author declares no conflict of interest.

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