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## Evaluation of Argon Laser Treatment of Trichiasis

ADEL A. FARAG, M.D.;  
MAMDOUH ZEIN EL-ABDEEN ATTA, M.D.;  
AHMED TAWFIK ALI, M.D.  
and HOSSAM HASSANIN, M.D.

*The Ophthalmic Department, Faculty of Medicine, Zagazig University.*

### Abstract

The argon laser was used to treat trichiasis in 17 patients (22 eye lids). The power was 1-12 watt, duration 0.1 seconds and spot size 50 microns. Twenty to thirty burns were applied to each follicle. The patients were followed up for a mean of 6 months. Ablation of the offending lashes was accomplished in 72.7% of the cases with one session and in 81.8% of the cases with two sessions (up to 8 eye lashes). Four cases showed persistent trichiasis (more than 8 lashes). No complications were observed. Argon laser was found to be a safe and useful option in selected cases.

### Introduction

**ALTHOUGH** trichiasis in some patients is only a minor nuisance, in other patients it can be associated with marked corneal scarring and potential loss of visual acuity. Established methods for removal of the eye lashes include epilation, electrolysis, cryotherapy, surgery and laser ablation. Simple epilation does not usually effect a permanent cure because the cilia usually reappear within a week or two. Electrolysis is variably successful in destroying the treated follicle, but the procedure may be uncomfortable for the patient and is relatively tedious to perform [1]. Various surgical procedures have been described to excise abnormal lashes, but an operation is usually reserved for patients with coexisting entropion or cases refractory to more conservative treat-

ment. Cryotherapy is probably the most widely used and consistently effective therapeutic option in practice, but it has the disadvantage of postoperative inflammation and the potential for eyelid notching, skin depigmentation and other more serious sequelae [2]. The treatment of trichiasis with the argon laser was first reported by Berry in 1979 [3]. Several studies both clinical and experimental had been done since then. The aim of this study is to evaluate the role of argon laser in the treatment of trichiasis.

### Patients and Methods

A total of 22 eyelids (17 patients) with mal-directed lashes were treated by argon laser (blue-green wavelength). Surface anaesthesia in the form of benoxinate hydro-

chloride 0.4% eye drops was used three times within five minutes. The lid margin was everted away from the globe. The patient was asked to look away from the planned area of treatment. An argon laser coupled to a slit-lamp biomicroscope was used to burn the misdirected lashes and follicles. The aiming beam was focused coaxial to the follicle of the cilium and burns were applied successively deeper into the eye lid substance. The power 1-1.2 watt, time 0.1 seconds and spot size 50 micron. Twenty to thirty burns were applied to each follicle. Antibiotic - corticosteroid eye ointment (Maxitrol eye ointment) was applied to the eyelid margin at the conclusion of the procedure and three times daily for the next week. Patients were followed for a mean of 6 months (3-9 months) for recurrence of trichiasis.

### Results

The average age of the 22 cases was 58 years (ranging from 28 to 75 years). Four-

teen of the cases were females and three were males.

In 6 lids the mal-directed eyelashes were epilated several times, in four lids electrolysis was done, in 2 lids cryotherapy was performed once and the remaining 10 lids received no treatment.

In 17 lids trichiasis was due to trachoma, in 3 lids, it was due to ocular pemphigoid and in 2 lids it was due to alkali burn (Table 1). The result of treatment was considered satisfactory if the offending lashes did not recur. Sixteen of the cases in the present work showed satisfactory results after the first treatment and the number of the eye lashes treated was less than 6 (Figs. 1,2). Six cases showed recurrence, 2 of them showed satisfactory results after the second treatment, the number of eye lashes treated was 6-8 lashes. While the remaining 4 cases showed recurrence even after the second treatment, the number of eyelashes treated was more than 8. No other complications were recorded (table 2).

Table (1): Causes of Trichiasis in the 17 Cases (22 Eye Lids).

Diagnosis	Male		Female		Total	
	No.	%	No.	%	No.	%
Trachoma	2	11.7	10	59.0	12	70.7
Ocular pemph.	1	5.9	2	11.7	3	17.6
Alkali burn			2	11.7	2	11.7
Total	3	17.6	14	82.4	17	100

Table (2): Results of Treatment

No. of treatments	No recurrence		No. of eye lashes treated	Recurrence		No. of lashes treated
	No.	%		No.	%	
One ttt	16	72.7	< 6	6	27.3	> 6
Two ttt	2	9	6-8	4	18	> 8
Persisted	4	18	> 8	4	18	> 8



Fig. (1): Six mal-directed eye lashes in the upper lid (before treatment).



Fig. (2): The same case two weeks after treatment.

### Discussion

In 1979, Berry [3] described the use of the argon laser to treat trichiasis successfully in seven of eight patients. In 1980, Berry [4] reported that 21 cases had been treated with good results. Campbell [5] reported the results of laser treatment of 15 eyelids in 12 patients, five of the 15 eyelids (33%) were treated successfully with one application, and an 80% Success rate (12 eyelids) was achieved with up to three treatments. He used Argon blue-green wavelength, spot size 50 to 100 microns, exposure time 0.05 to 0.10 seconds and power 1200 to 2000 mw. The advantages of the technique were precise application and selectivity. Lack of complications, non - requirement of infiltrative anaesthesia and ease of performance. Disadvantages were the need for up to three treatments in some patients and the technique only being suitable for treating small numbers (up to six) of lashes. In the present work, we had a higher success rate for one treatment (72.7%) and 81.8% for two treatments

which was the same as that of Campbell [5]. Also, the rate of success was higher in patients with less than 6 mal-directed lashes. In the present study 70.5% of cases of trichiasis were due to trachoma, the remaining cases were due to ocular pemphigoid alkali burn. We did not find a relation between the recurrence of trichiasis and the original cause but we found that the less the number of offending lashes the more satisfactory was the treatment. We agree with Bartley and Lowry [6] who reported that Argon laser treatment is a useful option when only a few, scattered eyelashes require ablation or in patients with disorders such as ocular pemphigoid, in which stimulation of inflammation is undesirable.

### Conclusion:

Argon laser treatment appears to be a safe and effective alternative to the other recognized methods of therapy in selected cases.

### References

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