Folliculectomy: Management in Segmental Trichiasis and Distichiasis

Suppapong Tirakunwichcha MD*, Uraiwul Tinnangwattana MD**,
Parima Hiranwiwatkul MD*, Santipong Rohitopakarn MD*

** Department of Ophthalmology, Faculty of Medicine, Chulalongkorn University*
*** Relief and Community Health Bureau, Thai Red Cross*

Objective: *To propose a new surgical technique as an alternative method for the correction of segmental trichiasis and distichiasis.*
Material and Method: *An interventional case series reviewed the segmental trichiasis and distichiasis patients who were treated with folliculectomy in the Ophthalmology Department, King Chulalongkorn Memorial Hospital. The data was collected from January 1997 to December 2002. The history, clinical features and treatments were reviewed. Patients with the initial diagnosis of entropion were excluded.*
Results: *Nine segmental trichiasis and distichiasis patients (13 eyes) were reviewed. Eight eyes underwent folliculectomy and one had folliculectomy with anterior lamellar recession. The follow-up time was 1-24 months. Nine of thirteen eyes (69.2%) were successfully treated with folliculectomy or folliculectomy with anterior lamellar recession. Four eyes needed second operations due to the recurrence of the eyelashes.*
Conclusion: *Folliculectomy revealed good results in trichiasis and distichiasis. It should be considered as an alternative technique because it is a simple and fast procedure.*

Keywords: *Folliculectomy, Surgery, Trichiasis, Distichiasis, Segment, Entropion*

J Med Assoc Thai 2006; 89 (1): 90-3
Full text. e-Journal: *http://www.medassocthai.org/journal*

Trichiasis is the misdirection of the eyelashes causing them to rotate inward to the eye instead of outward. It can present with only a few eyelashes, segmental or diffuse pattern. It is common among the causes of eye irritation, conjunctivitis, keratitis, corneal ulcer and subsequent corneal scar[1]. There are varieties of standard treatments, for example, mechanical epilation, electrocauterization, cryotherapy, argon laser treatment or even surgery like full thickness pentagonal resection. Eyelid splitting described by Fein[2] and excision of individual follicles[3] could also be performed.

Distichiasis, a relatively rare condition, is abnormal rows of the eyelashes. These originate from meibomian glands or in front of the meibomian gland openings. It can be classified into congenital or acquired conditions. Some diseases like Steven-Johnson syndrome, ocular pemphigoid or injuries may result in acquired distichiasis. Several procedures for the treatment of distichiasis, such as eyelid splitting with excision or microhyfrecation[4], cryotherapy to the posterior lamella[5,6], excision through tarsoconjunctival trapdoor[7], tarsal resection and mucus membrane grafting[8] have been reported.

The study presents a surgical method for the treatment of segmental trichiasis and distichiasis that deserves to be included as an alternative therapy.

Correspondence to : Tirakunwichcha S, Department of Ophthalmology, Faculty of Medicine, Chulalongkorn University, 1873 Rama IV Rd, Patumwan, Bangkok 10330, Thailand. Phone: 0-2256-4142, Fax: 0-2252-8290, E-mail: suppapong.T @chula.ac.th

Material and Method

The patients who presented with trichiasis or distichiasis and had operations with folliculectomy were enrolled into the present study. The data was collected from the operation records from January 1997 to December 2002. Informed consent was obtained from all the patients. The history, symptoms and signs,

treatment and follow-up data were reviewed. Patients who were initially diagnosed as entropion were excluded.

Surgical procedure

The patients received local anesthesia with 2% lidocaine with adrenaline 1:100,000 into the target area and topical anesthesia with 0.5% tetracaine hydrochloride eyedrop. The eyelid was held tightly with an open-bladed entropion clamp to stabilize the eyelids and minimize bleeding (Fig. 1). An incision was done by using Ophthalmic Knife15 degree (Alcon laboratories, Inc., Texax, USA) in an elliptical shape around the abnormal eyelashes deep into the follicles which were then removed (Fig. 2). If the wound was large, the anterior lamellar flap might migrate down and cause entropion or misdirected eyelashes, so it was then recessed and sutured to the tarsus about 3 millimeters away from the eyelid margin with 6/0 vicryl (anterior lamellar recession) for flap fixation.

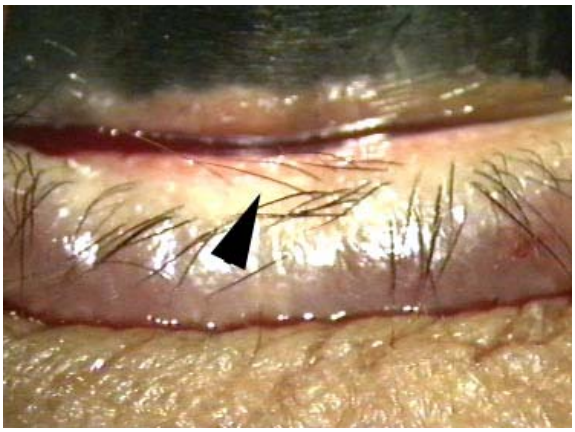

Fig. 1 Segmental trichiasis of the lower eyelid (arrowhead)

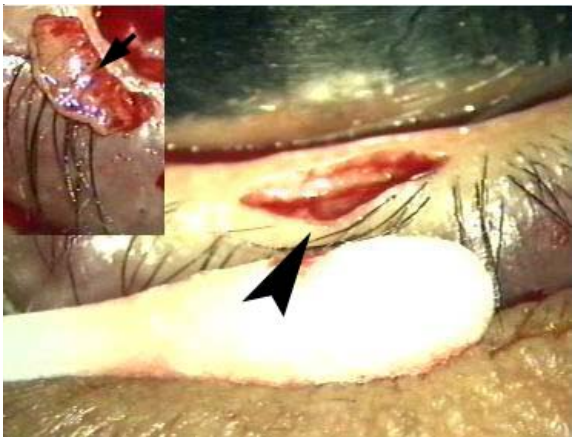

Fig. 2 The wound after folliculectomy at the lower eyelid (arrowhead). The inset shows a strip of tissue contains eyelashes and eyelash follicles (small arrow)

Results

Nine patients (13 eyes), age ranged between 40-77 years were diagnosed as segmental trichiasis in 11 eyes and distichiasis in 2 eyes. All had eye irritations, some had keratitis or corneal scar. All patients had precedent mechanical epilation and electrocauterization. Nine (69.2%) of 13 eyes had good results in surgery and no abnormal lash recurred. Eight eyes had folliculectomy and another eye had folliculectomy with anterior lamellar recession because of its large excisional wound. Follow-up time was 1-24 months.

Four eyes (30.8%) had second operations. The first case had folliculectomy with anterior lamellar recession and the same procedure again 8 months later. After 1 year of follow-up, there were only a few eyelashes left. The second had folliculectomy with anterior lamellar recession and had a recurrence. After having subsequent folliculectomy, the result was good. The third had folliculectomy with anterior lamellar recession that eventually developed into entropion. The correction was done and after a 2 week follow-up, there were no residual abnormal eyelashes and the patient was lost to follow up. The last case had a second folliculectomy 2 years after the first operation; there was just one residual abnormal lash with a 2 year follow-up.

Discussion

Mechanical epilation or electrocauterization[1] are the methods of choice in the treatment of trichiasis or distichiasis that has just one or two eyelashes. However, the recurrence rate is high and electrocauterization might cause deformity of the eyelid margin and loss of normal eyelashes[4]. Most patients with trichiasis and distichiasis are primarily treated with epilation or electrocauterization at the out-patient department. Many of them become entropion from the eyelid deformities. This explained why only nine patients were enrolled in a five year period. In the present study, most of the patients had segmental trichiasis (11/13 eyes) which could not be cured with only epilation or electrocauterization. Segmental trichiasis or distichiasis which severely irritated the eye and led to corneal complication and needed surgery. With lenthy many surgical techniques available for the correction[3,8], folliculectomy, an alternative method that directly removes the abnormal eyelash follicles could be a

procedure of choice. Nevertheless, 4 of 13 eyes needed second operations. Three had folliculectomy with anterior lamellar recession in the first operation. The recurrence in this group may have resulted from the heaviness of the anterior lamella that accompanied with dermato-chalasia or loosen sutures at the fixation points. They were reoperated with good results that inferred the repetitiveness of the procedure. There was only one eye that developed entropion after folliculectomy with anterior lamellar recession and was successfully treated with entropion correction. Not only is folliculec-tomy a very simple procedure, but it also requires a short operative time. It should be an alternative treatment for segmental trichiasis and distichiasis. The fact that the sample size in the present study was too small, though 70% were successfully treated without reoperation, there should be a further prospective study with a large sample size and long-term follow-up period.

Acknowledgments

The authors wish to thank Dr. Chuangchan Chansue for being the consultant of this study. There was financial support from Ratchadapiseksompoth funds, Chulalongkorn University. There are no conflicts of interest in this study.

References

1. Scheie HG, Albert DM. Distichiasis and trichiasis: origin and management. Am J Ophthalmol 1966; 61: 718-20.
2. Fein W. Surgical repair for distichiasis, trichiasis, and entropion. Arch Ophthalmol 1976; 94: 809-10.
3. Wolfley D. Excision of individual follicles for the management of congenital distichiasis and localized trichiasis. J Pediatr Ophthalmol Strabismus 1987; 24: 22-5.
4. Vaughn GL, Dortzbach RK, Sires BS, Lemke BN. Eyelid splitting with excision or microhyfrecation for distichiasis. Arch Ophthalmol 1997; 115: 282-4.
5. O'Donnell EA, Collin JRO. Distichiasis: management with cryotherapy to the posterior lamella. Br J Ophthalmol 1993; 77: 289-2.
6. Anderson RL, Harvey JT. Lid splitting and posterior lamella cryosurgery for congenital and acquired distichiasis. Arch Ophthalmol 1981; 99: 631-4.
7. Dortzbach RK, Butera RT. Excision of distichiasis eyelashes through a tarsoconjunctival trapdoor. Arch Ophthalmol 1978; 96: 111-2.
8. White JH. Correction of distichiasis by tarsal resection and mucous membrane grafting. Am J Ophthalmol 1975; 80: 507-8.

Folliculectomy: วิธีการรักษาภาวะขนตาเกชนิดเป็นท่อน ๆ และขนตางอกผิดตำแหน่ง

ศุภพงศ์ ถิรคุณวิชชะ, อุไรวัลย์ ตินนังวัฒนะ, พริมา หิรัญวิวัฒน์กุล, สันติพงศ์ โรหิโตปการ

วัตถุประสงค์: *เพื่อนำเสนอวิธีการผ่าตัดอีกวิธีหนึ่ง ในการแก้ไขภาวะขนตาเกชนิดเป็นท่อน ๆ และขนตางอกผิดตำแหน่ง (segmental trichiasis และ distichiasis)*

วัสดุและวิธีการ: *ศึกษาย้อนหลังในผู้ป่วยที่มีภาวะขนตาเกชนิดเป็นท่อน ๆ และขนตางอกผิดตำแหน่ง ที่ได้รับการผ่าตัดโดยวิธี folliculectomy ที่ภาควิชาจักษุวิทยา โรงพยาบาลจุฬาลงกรณ์ เก็บข้อมูลย้อนหลังตั้งแต่เดือนมกราคม พ.ศ. 2540 ถึงเดือนธันวาคม พ.ศ. 2545 โดยทบทวนดูประวัติ อาการ อาการแสดง และ การรักษา ผู้ป่วยที่ได้รับการวินิจฉัยว่าเป็นหนังตาม้วนเข้าใน (entropion) จะไม่นำเข้ามาสู่การศึกษานี้ การผ่าตัด folliculectomy ทำโดยการฉีดยาชาที่หนังตาเฉพาะบริเวณที่ต้องการทำผ่าตัด รอจนยาชาออกฤทธิ์เต็มที่ จากนั้นใช้ entropion clamp จับหนังตาให้แน่น ใช้ใบมีด 15 องศา ตัดที่บริเวณขอบเปลือกตาที่มีขนตาผิดปกติเป็นรูปวงรีให้ถึง eyelash follicles แล้วจึงคลาย clamp ออก ในกรณีที่แผลค่อนข้างกว้างอาจต้องทำ anterior lamellar recession โดยการรั่น anterior lamella ให้ห่างออกจากขอบเปลือกตาและเย็บด้วยไหม vicryl 6/0 เพื่อป้องกันไม่ให้เกิดการเคลื่อนตัวของ anterior lamella ไปที่ขอบเปลือกตา*

ผลการศึกษา: *มีผู้ป่วย 9 รายที่มีภาวะขนตาเกชนิดเป็นท่อนๆและขนตางอกผิดตำแหน่ง รวมทั้งหมด 13 ตา มี 8 ตา ได้รับการผ่าตัดด้วยวิธี folliculectomy และ1 ตาได้รับการผ่าตัดด้วยวิธี folliculectomy ร่วมกับการทำ anterior lamellar recession ซึ่งการรักษาได้ผลดี ช่วงระยะเวลาการติดตามการรักษาตั้งแต่ 1-24 เดือน มี 4 ตา ที่ต้องได้รับการผ่าตัด 2 ครั้ง เนื่องจากมีการเกิดซ้ำของขนตา*

สรุป: *การผ่าตัดด้วยวิธี folliculectomy ให้ผลการรักษาที่ดีในผู้ป่วยที่มีภาวะขนตาเกชนิดเป็นท่อน ๆ และขนตางอกผิดตำแหน่ง เนื่องจากวิธีการผ่าตัดดังกล่าวเป็นวิธีการผ่าตัดที่ง่ายและใช้เวลาน้อย จึงน่าจะเป็นอีกทางเลือกหนึ่งสำหรับการรักษา*