INTRODUCTION

Disturbances of the lacrimal system may cause recurrent tearing or epiphora. Chronic epiphora may lead to blurred vision, thickened discharge from the lacrimal sac, or acute dacryocystitis secondary to the obstruction.

Adeo Toti1 popularized the dacryocystorhinostomy (DCR), the gold standard operation for the treatment of obstructive epiphora. Originally, the combination of an external approach to the lacrimal sac and intranasal opening along the lateral nasal wall. Dupuy-Dutemps and Bourguet2,3 as well as Ohm4 suggested securing mucosal flaps with sutures to help prevent recurrent epiphora. Older4 used silicone tubes to allow the newly stented pathway to heal and prevent re-stenosis.

External DCR has a reported success rate from 80-99%.5 While the original approach has been externally based, newer endoscopic techniques have been recently employed including mechanical endoscopic DCR, endoscopic laser nasal DCR, and endoscopic radio frequency assisted DCR.6 The majority of endoscopic laser DCR cases have employed YAG laser as the laser of choice with good success.7 The advent of the portable Thulium laser, a 2 micron laser employing a fiber delivery system, is a less expensive option to the YAG laser.

This study examines the efficacy of Thulium laser DCR in the setting of symptomatic epiphora.

MATERIALS AND METHODS

27 patients with symptomatic epiphora were found to have 35 eyes documented with epiphora by dacryocystogram.

Under monitor controlled local anesthesia, the eye was anesthetized and the punctum were dilated. A 600 micron thulium laser fiber was placed in the canalicul up to the blockage site. Using endoscopic visualization intranasally, a laser DCR was performed using the Revolvix 200 (Lisa Laser USA) Thulium laser at 5W on continuous mode just anterior inferior to the middle turbinates, creating a 5x5 mm opening. Silicone stents were placed and secured intranasally. Oral and ophthalmic antibiotics were given post-operatively.

Patients were followed post-operatively for recurrence of epiphora, infection, etc.

RESULTS

The average age of the patient was 71.3 +/- 14 years old with 7 out of 27 males (26%). All patients had dacryocystitis ranging from 1-9 years with an average of 2.86 +/- 2.66 years. Eight of 27 patients (30%) had DCRs performed bilaterally, 8 of 27 patients (30%) had DCRs performed unilaterally in the left eye, and 11 of 27 patients (40%) had DCRs performed unilaterally in the right eye. Eight of 27 patients (30%) had previous surgery performed including four external DCRs, 2 canaliculoplasties, one with previous bilateral endocanalicualar DCR, and one patient with both endocanalicualar DCR with silicone intubation followed by an external DCR.

DISCUSSION

The majority of endoscopic laser DCR cases have employed KTP laser as the laser of choice with success 80-99%.8 The recent advent of the portable Thulium laser provides a less expensive and portable option to the YAG or KTP laser.

Twenty four out of 27 patients (89.9%) were successfully treated and were followed for an average of 11.3 +/- 6.24 months. Follow up ranged from 22 days to two years and one month. Adverse events included one patient with conjunctivitis that resolved and one patient with pruritic eyes 4 months post op that resolved. Thirty five minutes were requested for operative time for all cases.

There were 3 failures out of the 27 patients (11.1%). Of the patients that failed, 2 had previous surgeries while one did not. One patient had a previous canaliculoplasty with balloon stenting and dilation. This patient failed 1 year after the Thulium DCR and had to have an open DCR. A second patient had bilateral endocanalicualar DCRs performed and failed 6 years after the Thulium DCR. This patient had to have an external DCR with silicone intubation. The third patient failed did not have any previous surgery and received a conjunctivo-rhinostomy with insertion of a 18x4 Jones tube 3 years and 2 months after the initial surgery.

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REFERENCE