

Canaliculitis and Snip Procedure

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ABSTRACT

Objective To find out effectiveness of snip procedure in the treatment of canaliculitis.

Study design Cross sectional study.

Place & Duration of study BHY Hospital Karachi, from October 2017 to September 2019.

Methodology Patients of either gender with age from 20 years to 70 years suffering from clinically evident canaliculitis were included. Patients having a prior history of dacryocystorhinostomy surgery were excluded. Informed consent was obtained from each patient preoperatively. Snip procedure was performed on all the patients and oral antibiotics advised. Patients were followed for up to three months postoperatively to evaluate for any recurrences. Data were analysed using SPSS version 22. Chi square test was used to find out statistical significance.

Results A total of eighty five patients were included in this study out of which six patients developed recurrence of the disease. Three out of the six patients required revision surgeries. Two patients developed surgical granuloma and two had delayed healing. There was no significant difference in terms of recurrence related to gender ($p=0.26$), laterality ($p=0.47$), and punctal site ($p=0.66$). The significance value for redo surgery in context of gender was insignificant ($p=0.24$), laterality ($p=0.40$), and punctal site ($p=0.49$).

Conclusion Snip procedure was found as an effective treatment for early recovery, recovery and prevention of recurrence in patients with canaliculitis.

Key words Canaliculitis, Snip procedure, Dacryocystorhinostomy.

INTRODUCTION:

One of the uncommon infectious eye diseases the canaliculitis, may result in lacrimal canalicula or lacrimal punctal engorgement, pouring out of pus, redness and sometimes concretions.¹ It may present with watering, long term persistent unilateral infection of the conjunctiva, pouting lacrimal puncta and yellowish discharge.² Canaliculitis may be misdiagnosed due to its frequent symptoms of lacrimal punctal bulging and absence of concretions during regular ocular examinations with repeated conjunctivitis, dacryocystitis or chalazion.^{3,4}

Canaliculitis has been classically linked to

Actinomyces species. The characteristic histology comprises of granules with basophilic stacks visible microscopically, with an eosinophilic margin, and a milieu of Gram-positive filamentous bacteria.⁵ The literature also reported that Actinomyces was recognized in almost every canaliculitis concretion sample histopathologically, with occasional detection of nonfilamentous bacteria.⁶ However latest studies demonstrate streptococcus and staphylococcus to be the main widespread emerging pathogens.^{5,6}

Traditional treatment in the form of topical antibiotics gives short-lived relief from the symptoms but it is frequently coupled with continuation of the disease with recurrence.⁷ Therefore, surgical elimination of the entire concretions is considered to be vital for lasting alleviation of the disease and has clearly revealed to have apparent superiority over conventional management. Snip punctoplasty and canaliculotomy are preferred surgical options which allow thorough curettage.⁸

The aim of this study was to observe the

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effectiveness of snip procedure in the treatment of canaliculitis.

METHODOLOGY:

This cross sectional study was conducted at BHJ Hospital Karachi, from October 2017 to September 2019. Patients of 20 to 70 years of either gender having clinically evident canaliculitis were included in this study, whereas those with the history of previous dacryocystorhinostomy surgery were excluded. Proforma was used to record demographics, brief history, adnexal and slit lamp examination findings. All recruited patients gave informed consent and then treated with snip procedure followed by oral antibiotics for five days. Patients were followed up to three months postoperatively for the recurrence. This study was approved by the institutional ethical review committee.

Surgery was performed under an operating microscope using local anesthesia. Lignocaine 2% infiltration with epinephrine in a 1:100,000 ratio was carried out through the conjunctival side of the eyelid into the area of the lacrimal canaliculi and lacrimal puncta. Punctal dilator/ small Westcott scissors were used to remove the granules along with other debris from the pouting punctum. A lone sharp edge of a small Westcott spring scissor blade was positioned inside the ampulla of the lacrimal canalicula, while the other blade was put over the conjunctival area of the posterior facet of the eyelid. A sharp perpendicular snip was made at the vertical canaliculus followed by a second vertical snip from the border of the first snip to fashion a flap. The concluding horizontal snip was completed at the foundation with subsequent removal of the flap.

Data entry and analysis were done using SPSS version 22. Chi square test was applied to find out significance level of different variables in relation to gender and re do surgery. A p value of <0.05 was taken as significant.

RESULTS:

The study included 85 patients with mean age of 48.5 ± 12.77 year. Fifty-three (62.3%) patients were males, and thirty two (37.6%) females. Thirty-seven (43.5%) patients had involvement of the right eye, whereas left was involved in forty-eight (56.4%) patients. Seventeen (20%) patients had canaliculitis of the upper punctum, whereas in 68 (80%) lower punctum was involved. Seventy-nine (92.9%) patients had no recurrence while six (7%) patients experienced a recurrence of canaliculitis. Three out of six required revision surgeries. Two (2.35%) patients showed delayed healing and required oral

antibiotics longer than others whereas two (2.35%) patients developed surgical granuloma which was treated at later date. Mean follow up period was 83 ± 5.42 days. There was no significant difference in terms of recurrence related to gender ($p=0.26$), laterality ($p=0.47$), and punctal site ($p=0.66$). The significance value for redo surgery in context of gender was insignificant ($p=0.24$), laterality ($p=0.40$), and punctal site ($p=0.49$).

DISCUSSION:

Punctoplasty is advantageous for all patients who experience watery eyes, known as epiphora. The punctoplasty on medial aspect of eyelid is helpful in preventing punctal stenosis and allows tears to drain. This condition is more frequent among the elderly and is often caused by the chronic inflammation of the eyelids (blepharitis) and the use of topical antihypertensive medication. A punctoplasty is also beneficial for patients whose lacrimal glands produce excessive tears, caused by several factors, such as ocular surface irritation or dryness that causes the glands to compensate by producing more tears than usual.⁸ This is why some patients who suffer from watery eyes are prescribed artificial tears. By first resolving the dryness of the eyes, the excess tear production is also prevented. A punctoplasty, more frequently known as watery eye surgery, is an ophthalmic surgical procedure performed to treat punctal stenosis.⁹

Canaliculotomy is an invasive procedure. It opens up the canaliculus. It is done under a local anesthetic and a horizontal slit via the posterior plane of the canaliculus is made. Canaliculotomy helps with removal of contiguous necrotic epithelium and debris with the help of curettage. The canaliculi can also be washed with antibiotic solution. The cut can either be left open or closed with or without stent positioning as per requirement. The bulk of patients experience recovery after canaliculotomy. Complications such as formation of a scar and lacrimal pump dysfunction, necessitating intubation or stent positioning, frequent infection may occur that might need revision surgery. Strictures with the hindrance of flow within lacrimal system and constant watering of the eye are also reported complications after canaliculotomy.¹⁰⁻¹³

In this study, the authors performed three snip procedures to remove the entire posterior wall of the canaliculus for the ease of access to remove all the granules and infective material and also to prevent re-accumulation of infective element. This study showed more than 90% of success rate at the end of follow up period. Kim et al also performed a similar surgical technique and reported 78% success

rate.¹⁴ Zhang et al reported involvement of left eye in 62% of cases, and involvement of lower punctum in 37% , where as in this study right eye was involved in 56 % and lower lid in 80% of cases.¹¹ Bothra et al discussed one case with bilateral presentation,¹⁵ whereas none of the cases in this study had bilateral presentation. Local data for comparison of three snip procedures along with curettage of cannalicular material is lacking.

CONCLUSION:

Three snip procedure along with curettage of cannalicular debris is a procedure of choice for canaliculitis with minimal complications at short term follow up.

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Received for publication: 02-05-2020

Accepted after revision: 19-10-2020

Zeeshan Kamil: Manuscript writing & research planning.
Qirat Qurban: Manuscript writing & final review.
Shehla Dareshani: Data collection, research planning & final review.

Conflict of Interest:

The authors declare that they have no conflict of interest.

Source of Funding: None

How to cite this article:

Kamil Z, Qurban Q, Dareshani S. Canaliculitis and snip procedure. *J Surg Pakistan.* 2020;25 (3):114-6. Doi:10.21699/jsp.25.3.5.