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Original Article

Primary canaliculitis: The incidence, clinical features, outcome and long-term epiphora after snip–punctoplasty and curettage

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Abstract

Purpose: To study the incidence, clinical features and outcome of primary canaliculitis with special reference to long-term epiphora after Snip–punctoplasty and curettage.
Methods: Single center, retrospective, telephonic questionnaire study. The medical records of patients who visited Orbit and Oculoplasty clinic, Tertiary Eye Hospital, India from 01 July 2011 to 31 June 2012 were analyzed. Records of the patients with primary canaliculitis were reviewed for clinical profile and management. Post-surgical patients thus identified were telephonically contacted in December 2012. Questionnaire was used to assess the postsurgical epiphora. Symptomatic patients were given clinic appointment, reassessed and managed.
Results: 2245 patients visited Orbit and Oculoplasty clinic during the study period. The incidence of primary canaliculitis was 1.4% (31 patients). The median age of the patients with canaliculitis was 65 years (range, 14–80 yrs). Sixteen patients were male. All cases were unilateral and four eyes showed both upper and lower canalicular involvement. The commonest clinical presentations were pus or concretion from punctum (28), mucous discharge (23), epiphora (18) and conjunctival injection (18). Three snip punctoplasty and canalicular curettage was performed in 30 of these patients. Twenty of the 25 available culture results were positive and streptococcus species was the most common isolated organism. Records revealed that five (22%) of these patients had persistence of symptoms. Twenty-three patients could be contacted telephonically. The median follow-up of these patients was 11 months. On telephonic communication we found that two (8.7%) patients had epiphora. Munk epiphora score in these patients was three and one respectively.
Conclusions: Incidence of canaliculitis was 1.4%. Most common isolate was streptococcus species. Snip–punctoplasty and curettage is a safe and efficacious modality of treatment of canaliculitis. Post-operative epiphora occurred in 8.7% patients.

Keywords: Canaliculitis, Watering, Snip, Punctoplasty, Concretions, Canaliculotomy, Canaliculus

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Introduction

Canaliculitis is inflammation of lacrimal canaliculi. It is a rare disease, accounting for 2–4% of patients with lacrimal diseases. It classically presents with symptoms of unilateral conjunctivitis, epiphora, expressible punctal discharge, punctal or canalicular swelling, and erythema.[1] It is often misdiagnosed as chronic conjunctivitis, chronic dacryocystitis, chalazion, mucocele and blepharitis resulting in inappropriate and delayed treatment.[2] In addition to the delayed diagnosis, misdiagnosis often leads to unnecessary procedures such as irrigation which may push concretions into the sac

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and distal lacrimal drainage system causing dacryolith formation.[1] Previous studies demonstrated actinomyces to be the most common pathogen responsible for causing canaliculitis. However recent studies show streptococcus and staphylococcus to be the emerging most common pathogens.[2–5] Although conservative management with topical antibiotics leads to transient relief from symptoms it is often associated with persistence of disease and its recurrence.[6] Hence surgical removal of all possible concretions is considered essential for permanent cure and has been shown to have clear benefits over conservative management.[7,8] Canaliculotomy and snip–punctoplasty allow thorough curettage and are preferred surgical options.[9] Surgical interventions may cause lacrimal pump dysfunction and canalicular scaring leading to post-surgical epiphora.[10]

The aim of this study was to ascertain the incidence of primary canaliculitis and postsurgical epiphora after snip punctoplasty and curettage. We also analyzed clinical features, possible etiologies, treatment and outcome.

Patients and methods

Records of all the patients who visited Orbit and Oculoplasty clinic, Tertiary Eye Care Hospital, India, from 01 July 2011 to 31 June 2012 were analyzed. This retrospective study was approved by Institutional Review Board.

The patients who were diagnosed as canaliculitis were included in this study. Their medical records were reviewed. Data on patient's demographics, clinical features, treatment (conservative vs surgery), surgical procedure performed, microbiological report and treatment outcome were collected and analyzed. Conservative management was done by punctum dilatation and expression of concretions followed by topical ciprofloxacin eyedrops 4 times daily for one week.

Surgical management consisted of three snip–punctoplasty and curettage. Follow-up details of the patients were recorded. We recorded whether the patient was cured (complete resolution of symptoms), had persistence (no or partial relief of symptoms) or had recurrence (symptom recurrence following complete resolution).

The patients who had undergone snip–punctoplasty and curettage were then telephonically contacted in December 2012. A telephonic questionnaire was used to assess post-surgical epiphora (Table 3). We graded epiphora using Munk score.[11]

Patients who had epiphora at the time of telephonic interview were given clinic appointment. They underwent complete adnexal (lid position, punctal position, any signs of blepharitis) and anterior segment examination (corneal surface abnormalities, tear film break-up time, Schirmer's test) to rule out other causes of epiphora. Lacrimal pump function assessment, lacrimal syringing and probing were used to establish the patency of lacrimal system and the site of any obstruction. These patients were treated and followed up six months later.

Results

Among 2245 patients with lacrimal disease, thirty-one (1.4%) patients were diagnosed and treated for primary canaliculitis. Median duration between appearance of symptoms and diagnosis was 8 months (range, 2–24 months).

There were 16 men and 15 women. The median patient age was 65 years (range: 14–80 years). Upper punctum was involved in 14 patients, lower punctum in 13 patients and both puncta were involved in 4 patients. Pus and concretions from punctum on canalicular compression, epiphora and mucopurulent discharge were the most common presenting features of canaliculitis (Table 1). None of the patients had regurgitation on compression of lacrimal sac.

On review of records we found that all 31 patients with canaliculitis were counseled for surgery. Thirty patients gave consent and underwent snip–punctoplasty and curettage. A set protocol for surgery was followed in all these patients. Local anesthesia with 2% lidocaine mixed with epinephrine was given. Three snip–punctoplasty was performed using Vannas scissors. A curette of 1 or 2 mm in diameter then was inserted into the canaliculus through the punctum, and any concretions, granulation tissues, and mucoid debris were evacuated. Curettage was repeated until there were no further concretions or debris in the canaliculus. The material in the canaliculus was removed through the incised punctum. One patient did not give consent for surgery. He was managed by punctum dilatation and expression of concretions followed by topical ciprofloxacin.

Concretions were isolated during surgery in 27 patients and granulation tissues or mucoid discharge was observed in the remaining three patients. Gram stain, KOH, aerobic and anaerobic cultures were done. Microbiologic evaluation was performed in 25 patients and yielded positive results in 20 (80%) patients. Five cases showed no growth. Streptococcus species (60%) and staphylococcus species (10%) were the most common isolates (Table 2). Post-surgically all patients were treated with oral Amoxicillin 500 mg 3 times daily for five days and oral anti-inflammatory along with ciprofloxacin eye drops 4 times daily for one week which was changed according to the results of the culture and sensitivity report if needed.

The median follow-up was 18 weeks (range: 1–48 weeks). Seven patients (all from the surgery group) were lost to follow-up. Of 23 patients who had surgery and adequate follow-up 18 (78%) patients showed complete resolution of symptoms. Five (22%) patients showed persistence of symptoms after the first procedure. Three snip–punctoplasty and canalicular curettage was repeated in three of them. Symptoms resolved in all these patients after repeat procedure increasing the resolution rate to 21 (90%). Two patients did not give consent for repeat surgery and had persistent symptoms at last follow-up. None of our patients had recurrence. One patient who was managed conservatively

Table 1. Clinical features.

Signs and symptoms	No. of patients (n = 31)
Pus and concretions	28 (90%)
Mucous discharge	23 (74%)
Epiphora	18 (58%)
Conjunctival congestion	18 (58%)
Punctal and canalicular erythema	16 (53%)
Punctal and canalicular swelling	16 (53%)
Eyelid swelling	15 (48%)
Medial canthal pain	5 (16%)

n = number of patients.