

Case Report

Canalicular Curettage to the Rescue: a report of three cases

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Abstract

Introduction: Canalicular curettage is a surgical procedure used to remove canalicular contents and debris from canaliculi. It is usually indicated for chronic, persistent or recalcitrant canalicular diseases with no resolution of symptoms after conservative management. We describe 3 different cases of persistent canalicular diseases which needed canalicular curettage to rescue from the conditions leading to successful outcomes.

Cases and observations:

- Case 1: A 45/M presented with recurrent punctal granuloma 3 months after DCR surgery. Canalicular exploration and curettage with one-snip punctoplasty following excision of the mass revealed a segment of remnant silicone stent. There was no recurrence of mass in subsequent follow up visits.
- Case 2: A 35/F presented with recurrent canaliculitis for last 6 months. Canalicular curettage revealed multiple small calcified masses of varying size and shape. The patient had good postoperative recovery and showed no recurrence of symptoms.
- Case 3: A 32/F presented with gradually increasing pedunculated mass arising out of punctum for last one month. Excision of mass with canalicular curettage was done. Biopsy proved it to be squamous papilloma of the canaliculi. There was no recurrence of mass.

Conclusion: Canalicular curettage is a simple, safe and effective surgical intervention to rescue from the recalcitrant canalicular conditions like canaliculitis, retained foreign bodies, canalicular neoplasms leading to successful outcomes.

Key words: Canalicular curettage, Canalicular diseases, Canalicular neoplasm, Canaliculitis.

Introduction

Canalicular curettage is a surgical procedure used to remove canalicular contents and debris

from canaliculi. It is usually indicated for chronic, persistent or recalcitrant canalicular diseases with no resolution of symptoms after conservative management. Surgical intervention in form of canalicular curettage can be done in combination with canaliculotomy, with one-snip punctoplasty or with punctal dilatation alone (Pavilack & Freuh, 1992).

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Canalicular curettage has been reported as an effective surgical option for primary and secondary canaliculitis (Freedman et al, 2011; Kaliki et al, 2012, Kim et al, 2015), for chronic, recurrent or recalcitrant canaliculitis (Pavilack & Freuh, 1992; Yaman et al, 2009; Kim & Ra, 2018; Alam et al, 2019) for canalicular pyogenic granulomas, papilloma, lymphoid hyperplasia after silicon punctual plugs or lacrimal stents (Hsu et al, 2001; Hsu 2002; Migliori 1990; Han et al, 2012).

Canalicular curettage with canaliculotomy is reported to carry high resolution rate but can result in canalicular luminal narrowing or scarring, lacrimal pump dysfunction, and canalicular fistula formation. Snip-punctoplasty and curettage is considered as a less invasive safe and efficacious modality of treatment since the lacrimal function can be preserved (Kim et al, 2015; Lee et al, 2009).

We describe three different cases of infection, retained foreign body and neoplasia in canaliculi which were managed initially with conservative management but failed to resolve the diseases. Surgical intervention was needed in form of canalicular curettage to rescue from the conditions leading to successful outcomes.

Case 1: A 35-year-old female presented with complaints of recurrent swelling, pain and redness at the medial part of right lower eyelid associated with watering and discharge in her left eye for last 6 months. She had received maximal topical and oral medical treatment with no resolution for 6 months. On examination, she had swelling in the medial part of right lower lid with pouting punctum (Fig 1A). Mucopurulent discharge was expressed on gently pressing the canalicular area. A clinical diagnosis of recurrent lower canaliculitis was made. Canalicular curettage with one-snip

punctoplasty revealed multiple small calcified masses of varying size and shape along with granular debris which were extracted with a small curette (Fig 1B & 1C). The canaliculus was washed thoroughly with normal saline and 5% povidone iodine solution. The patient had good postoperative recovery and showed no recurrence of symptoms. (Fig 1D)

Case 2: A 45-year-old male presented with recurrent lower lid mass for 6 months following history of dacryocystorhinostomy surgery. No documentation of surgical details or follow-up was available. However, the patient disclosed that he had attempted to remove the prolapsed tube at the medial canthus. There was history of growth of similar mass at the same site for which the excision of mass was done elsewhere but recurred again after a month. On examination, an oval and pedunculated mass arising out of the punctum with an embedded stalk within was seen (Fig 2A & 2B). Canalicular curettage with one-snip punctoplasty following excision of the mass revealed a segment of remnant silicone stent. (Fig 2C & 2D). The histopathological examination of the excised mass revealed lipogranulomatous inflammatory lesion. There was no recurrence of mass in subsequent follow up visits.

Case 3: A 32-year-old female presented with growth of mass in left eye for last one month. The mass was gradually increasing despite some topical medications prescribed elsewhere. On examination, pedunculated mass arising out of the left upper punctum was seen (Fig 3A). Excision of the mass with canalicular curettage was done. The patient had a good postoperative recovery. Biopsy proved it to be squamous papilloma of the canaliculus. She was then started on topical interferon drops for 3 months. There was no recurrence of the mass on subsequent follow-up visits (Fig 3B).

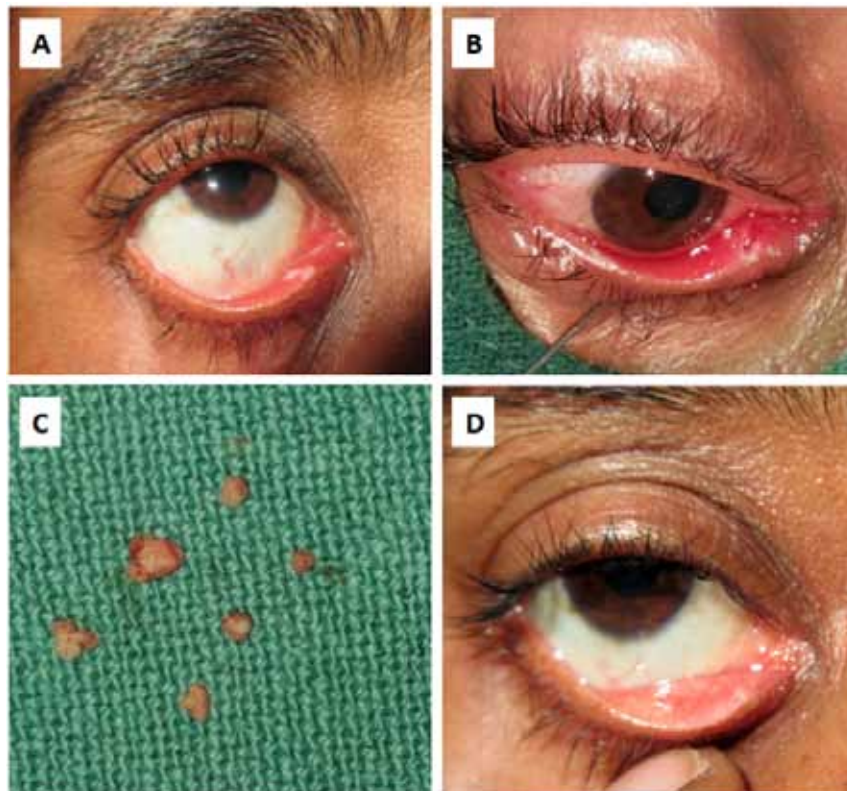


Figure 1: Photograph showing the pouting punctum lowerlid pre-operatively (A), one-snip punctoplasty (B), extracted multiple calcified masses of varying size and shape (C), and good recovery with healed wound in postoperative 2 weeks (D).

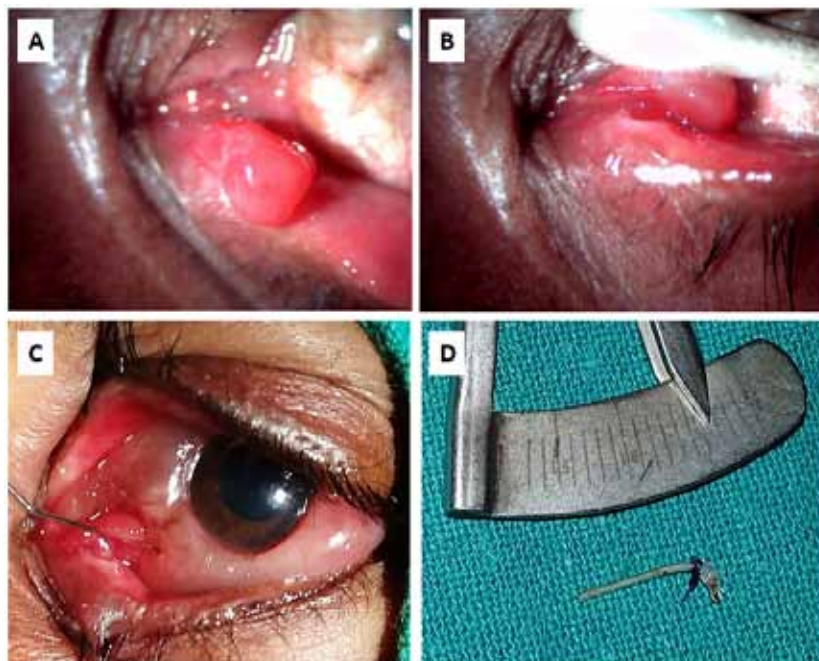


Figure 2: Photograph showing the oval mass arising from lower punctum (A), with visible pedunculated stalk (B); intraoperative photograph of one-snip punctoplasty (C) and extracted segment of remnant silicone stent (D).

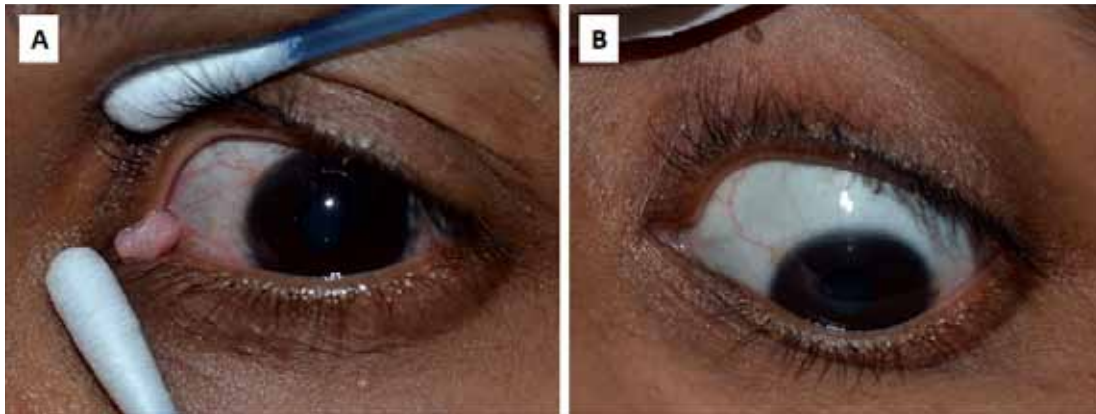


Figure 3: Photograph showing the pedunculated mass arising from upper punctum pre-operatively (A), and post-operative photograph with good recovery and outcome (B).

Discussion

Canalculitis is an uncommon inflammation with low prevalence that is often undiagnosed, misdiagnosed and improperly treated (Freedman et al, 2011). Conservative therapy with warm compress, digital massage, topical and systemic antibiotics alone may not be effective in the presence of concretions and thick granular debris, necessitating the surgical intervention. Canalicular curettage with dilatation of punctum or various punctoplasty techniques (one-snip, two-snip, three-snip or four snip) to sufficiently widen the os helps to remove the stones, debris or concretions (Freedman et al, 2011; Kim & Ra, 2018; Lee et al, 2009). In our first case of recurrent canalculitis (Case 1), one-snip punctoplasty was done to facilitate canalicular curettage. No postoperative complications were noted. Canalicular curettage thus helped to remove the stones & debris resulting in resolution of canalculitis and achieve the successful treatment outcome.

Punctual granulomas are commonly seen as a complication of silicone punctual plugs, intracanalicular plugs or stents. Punctal plugs, commonly used to treat dry eyes, may displace or migrate and the retained intracanalicular

silicone plugs may result in canalculitis, dacryocystitis or pyogenic granuloma (Hsu,2002). Silicone stents, commonly used to intubate nasolacrimal system and left for several months, are generally well tolerated. However, punctual granuloma as complications of retained lacrimal stent are reported rarely (Hsu et al, 2001; Dresner et al, 1984). The recurrent punctual granuloma in our case (Case 2) due to retained silicone stent was successfully extracted after canalicular curettage with one-snip punctoplasty following excision of the mass.

Canalicular papillomatosis is rarely reported as a mass lesion in the proximal lacrimal drainage system (Williams et al, 1985; Ali et al, 2017). The usual modalities of treatment have been canaliculotomy, excision biopsy and cryotherapy, but in spite of these, multiple recurrences are known (Williams et al, 1985). Topical and intralesional interferon has been reported to be effective for treatment of recurrent lacrimal papilloma (Parulekar et al, 2002). In our case (Case 3), the punctual mass was excised, canalicular curettage was done, and topical interferon was given for 3 months postoperatively. No complications were noted and no recurrence was seen.

Surgical intervention in form of canalicular curettage combined with canaliculotomy and snip punctoplasty may cause lacrimal pump dysfunction and canalicular scarring leading to post-surgical epiphora (Pavilack & Freuh, 1992). However, it may come as a rescue for chronic, persistent, recalcitrant or recurrent canalicular conditions like canaliculitis, punctal mass like granuloma and neoplastic lesions.

Conclusion

Canalicular curettage is a safe and effective surgical technique that may be indicated in selected cases of canalicular diseases which fail to respond with conservative management. Correct diagnosis and treatment of the cause is necessary for prompt resolution of the symptoms. Simple surgical intervention in form of canalicular curettage may rescue from the recalcitrant canalicular conditions leading to successful outcomes.

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