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## Bicanalicular Laceration Managed with Two Mini-Monoka® Monocanalicular Stents

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## CASE REPORT

# Bicanalicular Laceration Managed with Two Mini-Monoka<sup>®</sup> Monocanalicular Stents

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**ABSTRACT** Bicanalicular lacerations have been traditionally managed using bicanalicular nasal intubation or annular stents. The Mini Monoka monocanalicular stent has been described for the management of monocanalicular lacerations. A bicanalicular laceration can also be successfully managed using two Mini Monoka monocanalicular stents, and this technique has several advantages. We report this simple and minimally invasive alternative in the management of bicanalicular laceration.

**KEYWORDS** Bicanalicular laceration; monocanalicular stents; Mini-Monoka stents; canaliculus trauma; eyelid trauma

## INTRODUCTION

Bicanalicular lacerations are rare, with limited surgical options available for the management, such as annular stent or bicanalicular nasal intubation (Reifler, 1991). The annular stent requires a pigtail probe, is technically demanding, requires adequate experience, and has been reported to cause damage to the uninvolved portion of the canaliculus (Saunders et al., 1978).

Bicanalicular nasal intubation involves stent retrieval from the nasal cavity, and can be technically difficult without endoscopic guidance. Rarely, it can also lead to complications, including punctal or canalicular slitting, granuloma formation, superior loop dislocation and chronic nasal irritation (Anderson & Edwards, 1979; Burns & Cahill, 1984; Dresner et al., 1984; Lauring, 1976; Reifler, 1991).

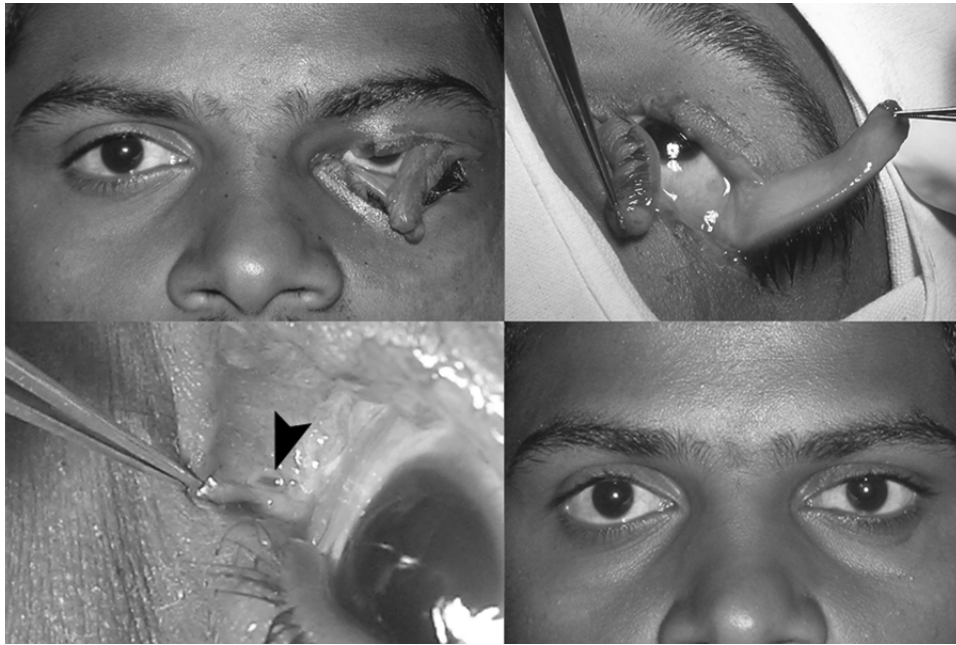
The Mini-Monoka<sup>®</sup> monocanalicular stent has been reported to be effective in the management of mono-canalicular lacerations (Anastas et al., 2001). In this report, we describe the use of two separate Mini-Monoka<sup>®</sup> monocanalicular stents for the management of a bicanalicular laceration.

## CASE REPORT

A 24-year-old male presented to us within six hours of accidental injury to the left eye with a metal hook. On examination, visual acuity, ocular motility, anterior segment and fundus findings in the left eye were within normal limits. The left upper eyelid showed a beveled sub-total avulsion involving the upper canaliculus (Fig. 1, top). The avulsed flap was continuous with the remaining

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**FIGURE 1** Pre-operative clinical photograph showing subtotal avulsion of both eyelids with bicanalicular laceration (top left and right). Magnified view of the medial canthal area showing medial cut end (arrowhead) of the lower canaliculus (bottom left). Same patient 3 months after removal of both Mini-Monoka monocanalicular stents and levator resection surgery (bottom right).

eyelid near the lateral canthus. The lower eyelid had a similar avulsion hinged medially, with an additional marginal laceration involving the lower canaliculus. There was no evidence of eyelid tissue loss or necrosis.

The patient underwent eyelid laceration repair with canalicular intubation using two separate Mini-Monoka<sup>®</sup> monocanalicular intubation stents (Mini-Monoka<sup>®</sup>, FCI, Cedex, France). The medial cut end of each canaliculus was identified using an operating microscope, and intubated with a Mini-Monoka<sup>®</sup> monocanalicular intubation stent using a standard technique (Anastas et al., 2001). After careful approximation of peri-canalicular eyelid tissue with 6-0 vicryl sutures, both avulsed eyelids were sutured in layers in a standard manner. The cut edge of the levator aponeurosis was carefully re-attached to the upper tarsus. The postoperative period was uneventful, and both stents were stable. Residual ptosis persisted in the left eye. Four months later, anterior approach levator resection surgery and removal of both Mini-Monoka<sup>®</sup> stents was performed. Diagnostic probing across each canaliculus confirmed patency. Irrigation through each canaliculus was performed at 6 weeks and 3 months. At the last follow-up 26 months post-surgery, the patient did not complain of epiphora, and both the canaliculi remained patent (Fig. 1, bottom right).

## DISCUSSION

Bicanalicular lacerations are rare, and are traditionally repaired with either a bicanalicular annular stent using a pigtail probe or bicanalicular nasal intubation. We describe a novel technique of stenting a bicanalicular laceration using two separate Mini-Monoka<sup>®</sup> monocanalicular stents.

There are several advantages with this technique. The procedure is simple to perform, and avoids any intranasal manipulation or need for endoscopic assistance. Local peri-canalicular anesthesia can therefore be sufficient for less extensive injury. Our patient had subtotal avulsion of both eyelids, and therefore we preferred general anesthesia. The two stents are independent of each other, thereby eliminating the chances of canalicular slitting. The peri-canalicular eyelid repair following stent insertion is technically easy since there is no loop of silicone stent extending between the two puncta, as with bicanalicular nasal intubation. Finally, in the event of premature stent loss or migration, which is reported with bicanalicular nasal as well as Mini-Monoka<sup>®</sup> stents, at least one canaliculus would remain stented with our technique since simultaneous loss of both stents would be extremely rare.

In summary we have reported the use of Mini-Monoka<sup>®</sup> monocanalicular stents in the management

of a bicanalicular laceration. This technique is a simple, effective and less invasive alternative to bicanalicular annular or nasal intubation.

## REFERENCES

- Anastas CN, Potts MJ, Raiter J. Mini Monoka silicone monocanalicular lacrimal stents: Subjective and objective outcomes. *Orbit*. 2001; 20:189–200.
- Anderson RL, Edwards JJ. Indications, complications and results with silicone stents. *Ophthalmology*. 1979; 86:1474–1487.
- Burns JA, Cahill KV. Management of complications associated with silastic tube intubation of the nasolacrimal drainage system. In: Bosniak SL (ed). *Advances in Ophthalmic Plastic and Reconstructive Surgery; The Lacrimal System*, Vol 3. New York: Pergamon Press, 1984; 283–288.
- Dresner SC, Codere F, Brownstein S, Jouve P. Lacrimal drainage system inflammatory masses from retained silicone tubing. *Am J Ophthalmol*. 1984; 98:609–613.
- Lauring L. Silicone intubation of the lacrimal system: pitfalls, problems and complications. *Ann Ophthalmol*. 1976; 8:489–498.
- Reifler DM. Management of canalicular laceration. *Surv Ophthalmol*. 1991; 36(2):113–132.
- Saunders DH, Shannon GM, Flanagan JC. The effectiveness of the pigtail probe method of repairing canalicular lacerations. *Ophthalmic Surg*. 1978; 9:33–40.