

False Passage Mass due to Broken Probe after Nasolacrimal Duct Probing: A Case Report

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Abstract

Purpose: To report a patient with retained broken probe tip in the false passage site after nasolacrimal duct (NLD) probing

Case report: A 18-month-baby with epiphora and a nontender mass in the site of lacrimal sac was visited in clinic. She had a history of probing six months ago by another ophthalmologist. The probing was repeated successfully but the mass size didn't change. The mass was dissected and small size whitish color mass was completely removed. In pathologist report, there was a metallic foreign body (5 mm × 0.3 mm) in the center of the mass. The foreign body was due to probe breaking and its tip being retained in the false passage site.

Conclusion: This case report shows the importance of gentle probing and notification to integrity of the probe before and after the procedure.

Keywords: Nasolacrimal Duct Obstruction, Broken Probe, Dacryocystocele, False Passage Mass

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Introduction

Congenital nasolacrimal duct obstruction (CNLDO) may be present in 50% of newborn infants. Most obstructions would be resolved spontaneously within 4-6 weeks after birth.¹ Ninety percent of all symptomatic congenital nasolacrimal duct (NLD) obstruction resolve in the first year of life.¹ In children younger than 18-month-old, success rate of 77% to 97% has been reported for probing. Probing is still used as the primary surgical procedure for treatment of NLDO. Although NLD probing is

a safe method but it is potentially traumatic.² In this case report, the tip of the probe broke off outside the NLD in the false passage and induced granulation like tissue was mistaken with dacryocystocele.

Case report

A 18-month-old baby with epiphora and mild swelling below the medial canthus of the left eye, was referred to our clinic.

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The patient's history revealed CNLDO and probing was performed for him when he was 12-month-old by another ophthalmologist. Three days after probing, there was mild swelling below the medical canthus of the left eye with recurrence of epiphora. Because of no response to medication, 6 months after first procedure, she was referred to our clinic.

In gross examination, a subcutaneous firm and immobile mass without tenderness and redness, with 1.5 cm x 2 cm size below the left medial canthus was seen and other examinations were normal. With impression of failed probing and dacryocystocele, the patient was selected for repeat probing and crowford tube intubation.

The patient underwent probing under general anesthesia, and the NLD was irrigated with saline solution after probing. The solution was recovered by suction in the naris and because no change was happened in size of the mass, this demonstrated that there wasn't any relation between the mass and NLD. So, we decided to explore the mass. Suitable incision was performed and after exploration, there was a whitish color dermoid like cyst that we tried to remove it completely (Figure 1). During the mass removal, the cyst wall was ruptured and white yellowish discharge appeared. After complete exploration the mass was totally removed (Figure 2).

In the pathology report, in macroscopic views, the tissue specimen consisted of an irregular creamy brownish tissue with elastic consistency measuring 1.5 cm x 1 cm x 0.6 cm. Cut section revealed a cyst filled by pasty material and fragment of needle like metal, measuring 5 mm in length and 0.3 mm in diameter at the center of the specimen (Figure 3).

In microscopic evaluation, section showed fibro muscular tissue containing acute and chronic inflammatory infiltrations, scattered giant cell, and necrotic debris around foreign body that was compatible with metallic foreign body and granulomatous reaction.



Figure 1. Dermoid like whitish mass, is exposed in field of surgery



Figure 2. Well define granulation like mass that was completely removed



Figure 3. A 5x0.3 mm metallic foreign body that was find in the center of mass.

Discussion

CNLDO is usually caused by a membranous block of the valve of Hasner,¹ covering the nasal end of the NLD. Probing is still used as the primary surgical procedure for treatment of NLDO. Although NLD probing is an effective method but surgical and postsurgical complications have been reported infrequently.² Seldom, an eyelash, retained silicone tube or suture materials have been reported.³⁻⁶ False passage is one of the complication that should be suspected when bleeding is observed during or after probing.⁷ One of unusual complication of probing was reported by Yeatt and Crum in 1989, on a 11-month-old child that a 4 mm segment of the tip of a 0000 probe broke off inside the NLD during probing for NLD obstruction.⁸

In Another case report the tip of the broken probe was maintained in the lacrimal sac which induced long time bloody discharge from punctums.⁹ In our case report the tip of the probe was broken but was placed outside the lacrimal duct via a false passage. The metallic foreign body was surrounded by a granulation tissue, and located subcutaneously below the left medial canthus which could be mistaken with dacrocystocele.

The two most used probes are the Bowman-style, in which the probe is a

straight cylindrical wire of uniform diameter, and the Williams-style probe, in which the probe has a shaft that taper to a narrow neck before ending in a bulbous tip.⁸ The narrow neck of the Williams-style probe seems to be disposed for breaking.⁸ We suppose that the probe which was used in the initial probing of this child was a Williams-style probe. So; we recommend Bowman-style probe with a diameter no less than 0.60mm (00) for NLD probing.

According to our knowledge, there are a few reports about the broken probes in lacrimal duct, but this is the first report concerning the retained metallic foreign body due to broken probe during false passage maneuvering.

Conclusion

Although NLD probing is an effective method for treatment of NLDO in children, but it can be traumatic. In this report; distal segment of a probe broke off outside the NLD during a false maneuvering.

Choosing an appropriate probe design, notice to integrity of the probe before and after procedure and selecting the appropriate probe size will help to prevent this unusual complication.

References

1. Casady DR, Meyer DR, Simon JW, et al. Stepwise treatment paradigm for congenital nasolacrimal duct obstruction. *Ophthal Plast Reconstr Surg* 2006;22(4):243-7.
2. Pediatric Eye Disease Investigator Group, Repka MX, Melia BM, et al. Primary treatment of nasolacrimal duct obstruction with balloon catheter dilation in children younger than 4 years of age. *J AAPOS* 2008;12(5):451-5.
3. Dresner SC, Codère F, Brownstein S, Jouve P. Lacrimal drainage system inflammatory masses from retained silicone tubing. *Am J Ophthalmol* 1984;98(5):609-13.
4. Kramár P, Gofman J. Iatrogenic canalicular foreign body. *Ophthal Plast Reconstr Surg* 1996;12(1):65-7.
5. Hirsch DR, Miller ER. Ocular inflammation secondary to a punctal foreign body. *Arch Ophthalmol* 1996;114(5):625.
6. Baratz KH, Bartley GB, Campbell RJ, Garrity JA. An eyelash nidus for dacryoliths of the lacrimal excretory and secretory systems. *Am J Ophthalmol*.1991;111(5):624-7.
7. Kakizaki H, Takahashi Y, Kinoshita S, et al. The rate of symptomatic improvement of congenital nasolacrimal duct obstruction in Japanese infants treated with conservative management during the 1st year of age. *Clin Ophthalmol* 2008;2(2):291-4.
8. Yeatts RP, Crum B. An unusual complication of nasolacrimal duct probing. *Ophthalmic Surg* 1989;20(7):490-3.
9. Tabatabaie SZ, Rajabi MT. Bloody discharge due to iatrogenic metallic foreign body in the lacrimal sac. *Iranian Journal of Ophthalmology* 2005;18(3):95-7.