



Original Research Article

Probing under topical anaesthesia

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ABSTRACT

To assess the practical difficulties and results of probing for Congenital Naso Lacrimal Duct Obstruction under topical anesthesia. 500 infants (650 eyes) were selected. Age ranges from 3-12 months and study was done over a period of 10 years. Probing was done in those children in which medical treatment (antibiotic drops and sac massage) have failed. Topical anesthesia (Lidocaine 4%/ Proparacaine 0.5%) was used for probing. This procedure was successful in 95.2% in first & 98.4% in second sitting without any significant complication. Thus probing under topical anesthesia is a shorter & convenient method.

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1. Introduction

Epiphora in infants as a result of obstruction in the lacrimal passages is the commonest ocular anomaly. About 6% of the full term babies have obstruction of the Naso Lacrimal passages.¹ The lower end of the duct is separated from middle meatus of nose by a thin membrane which usually ruptures spontaneously before birth or in first week of life. If not, it leads to epiphora and dacryocystitis.

Success of medical treatment (antibiotic drops and sac massage) varies from 8-45% of cases in different studies.²⁻⁴ Syringing and/or Probing was advised in those cases where conservative treatment didn't succeed. In the literature, majority of the studies advocate Probing under General Anesthesia(GA). Though under GA, it is quite safe and convenient for the surgeon, but it has its own social problems such as:

1. Fear of G.A.
2. Fear of major procedure
3. One day hospitalization
4. Preparation of patient in advance.

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Parents often don't go for this surgical procedure due to one or more of the above mentioned. Instead they go on changing the doctors. Considering all this, we started the procedure i.e. Probing under Topical Anesthesia as recommended first in the Peyman's Textbook of Ophthalmology⁵ & Tang.⁶ The details of the procedure & the results are mentioned herein

2. Materials and Methods

This report is based on a total of 500 patients (650) eyes. Patients were examined between April 2009 to March 2019 (10 Years) at a Private Hospital in North India. Age group of Patients ranges from 3-12 months. Medical treatment failure infants were included in this study. It was emphasized & confirmed that the patient had done sac massage & used antibiotic drops properly for at least 15 days before taking him/ her for probing. Mother was always asked to demonstrate the way she did sac massage. In the first instance she invariably pinched the skin around nose with thumb & index finger. On repeated instructions and proper demonstration only she did the massage properly.

Parents were instructed to bring the child without giving feed in the last 30-60 minutes.

The surgical procedure, Probing was done using topical anesthesia. Proparacaine 0.5%/Lidocaine 4% eye drop were administered in the eyes of the infant 3 times every 5 minutes while the infant was in his/her mother's lap. Thereafter the infant was shifted to operation theatre. Both of his legs were wrapped in a towel. Head was immobilized by holding both his/her arms on the sides of his/her head and pressing the arms from the sides. Topical anesthetic agent was repeated once or twice in the OT before procedure. Punctum Dilator was used to dilate lower punctum. Bowman's 000 or 0000 probe was then passed through the passages, first vertically through the punctum, followed by shifting it horizontally and then further advanced through the lower canaliculus & common canaliculus till hard surface (lacrimal bone) was felt. While passing the probe through the lower canaliculus, Lower lid was pulled laterally. Then the probe was withdrawn for about 1 mm from the bore, the direction of the probe was shifted towards inferiorly, slightly posteriorly & laterally in the direction of the naso lacrimal canal & gently advanced for about 8mm until a resistance by membrane is felt by probe. Opening was created by applying direct pressure on the probe tip and thus rupturing the membrane. Probe was withdrawn. Parents were informed that the child may have slight bleeding from eyes, nose or throat. Mother was told to give the feed immediately after the procedure; it helps to calm the child.

Patient was given antibiotic drops and sac massage for 3 months. He was examined again on II day, VII day, 30th day, 60 & 90th day.

3. Observations and Results

Of the 500 patients, 286 (57.2%) were males and 214 (42.8%) were females. Majority of infants 348 (69.6%) belong to age group of 3-6 months, 108 (21.6%) were from 6-9 months of age and rest 44 infants (8.8%) belong to 9-12 months of age. Out of 500 infants, 352 (70.4%) were unilaterally affected; out of which, right eye(145) was affected less as compared to left eye(207).

617 eyes of infants out of 648 were improved with single probing thus obtaining a significant success rate of 95.2%. out of remaining 31 eyes, 21 more eyes were improved with second sitting of probing thus making a total success rate of 98.4%. Infants who were not cured even after second sitting were referred to higher centre for further management. Third probing, though advocated by a few, was not tried in rest of our cases. Retrospectively thinking, various reasons for failure in the rest of 10 eyes could be scarring due to muco-purulent discharge, overuse/abuse by antibiotic drops and sac massage not done properly in post op period or iatrogenic.

While starting the procedure under topical anesthesia, we had a fear of increase in the rate of complications such as Punctum tear, false passages, echymosis, excessive bleeding

but such complications were not seen during this study.

Table 1: Showing Age distribution

Age Group	Number	%
3-6 months	348	69.6
6-9 months	108	21.6
9-12 months	44	8.8

Table 2: Showing Sex wise Incidence

Sex	Number	%
Males	286	57.2
Females	214	42.8
Total	500	

Table 3: Showing Predominance of eye

Eye Affected	Number	%
Right eye	145	29
Left eye	207	41.4
Both eyes	148	29.6

Table 4: Showing results of Probing

Result	Number	%	Cummulative %
Improved in first sitting	617	95.2	95.2
Improved in second sitting	21	3.2	98.4
Not improved	10	1.6	
Total	648		

4. Discussion

In our study, a success rate of 98.4% was observed which is comparable to 93.5% by Sharma⁷ & Robb.⁸

Though appears quite difficult till not performed with own hands. Probing under topical anesthesia, is quite easy, safe and simple procedure with high success rates if done in experienced hands. Complications, due to unpredictable mobility of the child were not faced during the study which were expected. After Peyman, Stager et al⁹, Shrestha¹⁰, Basar¹¹ & Schnall¹² have also recommended topical anesthesia for probing in children less than 1 year of age.

Following were advantages of the procedure:

1. Parents prefer to delay than to subject an infant for general anesthesia. So with this, compliance was more.
2. Patient & his attendants have to spend only 30 minutes in the hospital as compared to 8-10 hours if it has to be done under GA.

3. Anesthetist is not required.
4. Expenditure is less.
5. It is safe from the complications of GA.
6. No pre-op fasting is required.
7. It can be done even in first visit when the patient comes prepared for consultation only (since no fasting/preparation/ scheduling is required).
8. Parents agony is relieved early as the patient is usually symptom free from next day.

Thus it is a shorter & convenient method.

5. Source of funding

None.

6. Conflict of interest

None.

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