



Indian survey on practice patterns of lacrimal and eyelid disorders (iSUPPLE) report 1: Congenital nasolacrimal duct obstruction



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ABSTRACT

Background: To assess the preferred practice patterns in the management of congenital nasolacrimal duct obstruction (CNLDO) among oculoplastic surgeons in India. The survey was aimed at obtaining data on the timing of intervention, procedure of choice, and the use of adjunctive techniques such as silicone intubation and nasal endoscopy.

Methods: An anonymized survey that included questions on the management of lacrimal disorders was sent in April 2015 to members of the Oculoplastic Association of India (OPAI), through an e-mail communication. The results were tabulated and analyzed.

Results: A large proportion (84%) of respondents indicated that they advise lacrimal sac compression up to 1 year of age. Fourteen percent (12/87) indicated 2 years as their upper age limit for advising sac compression. One year is the preferred minimum age for advising primary nasolacrimal duct (NLD) probing by majority (45%) of respondents and the upper age limit being 5 years for 62% of respondents. Based on experience, younger surgeons (<10 years experience) when compared to more experienced surgeons are more likely to offer a trial of primary probing in children between 8 and 12 years age (29% versus 8%). Nasal endoscope is used by 50% (44/88) respondents during primary NLD probing. Nearly a third of the respondents (29/88) use intubation in all cases of NLD probing. Eighty one percent (71/88) of the surgeons would rather repeat NLD probing with adjunctive procedures over dacryocystorhinostomy (17%). Balloon Dacryoplasty is rarely used for CNLDO amongst our respondents.

Conclusions: This study highlights the variation in practice pattern in the management of CNLDO across India. While there are certain trends that are global phenomena, such as the shift towards the use of a nasal endoscope; use of silicone intubation in repeated procedures and time of performing primary NLD probing; issues like the use of balloon dacryoplasty showed lesser degree of agreement.

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1. Introduction

Congenital Nasolacrimal Duct Obstruction (CNLDO) is the leading cause for epiphora in children and has a reported incidence that varies from 1.2% to 30% [1–5]. The natural history of CNLDO suggests that in many cases, it resolves without any intervention [1]. During the first year of life, conservative medical management with lacrimal sac compression as suggested by Crigglar, is advocated [6]. However if symptoms persist after conservative

management, nasolacrimal duct (NLD) probing along with irrigation is performed. Success rate of probing depends upon various factors such as type of obstruction (simple versus complex), age at initial treatment, bilateral affliction, functional causes and the use of nasal endoscopy at the time of probing [7–9].

All the same, there are some conflicting views and disagreements: how long to wait to allow obstructions to clear spontaneously; should the procedure be performed in the office or with anesthesia in the operating room; and the appropriate timing for this procedure among other issues. While there have been reports that have suggested good outcomes even in older children, there is a lack of consensus on what is the upper limit for attempting NLD probing and repeat procedures [8–11]. Furthermore, the advent of nasal endoscopy, silicone intubation and balloon dacryoplasty have

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not only improved the outcome rates but also helped us understand the pathophysiology and diagnose masquerades of CNLDO [4,5]. This study was therefore aimed at assessing current practice trends in the management of lacrimal disorders among Indian oculoplastic surgeons. This communication addresses the management of CNLDO.

2. Methods

A survey that included questions on the management of lacrimal disorders was sent in April 2015 to members of the Oculoplastic Association of India (OPAI) through an e-mail communication. The email clearly explained the nature of the survey and its questions and contained a hyperlink to an electronic survey hosted by a third party website: www.surveymonkey.com. Subsequently, a reminder to take the survey was sent after 2 weeks. The survey contained 30 questions – most of which were multiple-choice questions. Respondents were also asked questions that included demographic information of the respondent regarding years of practice, age and practice setting. Respondents were also allowed to skip questions in case they did not want to reply to any particular question. The survey was anonymized and did not contain any identifying information. Institutional Review Board approval was obtained prior to commencement of the study. Association between categorical variables was assessed using Fisher's exact test or Chi-Square test. Continuous data was analyzed using non-parametric test, i.e. Mann-Whitney *U* test. We considered a *p* value < 0.05 as statistically significant. All statistical analysis was performed with GraphPad Prism 6[®] (GraphPad Inc., La Jolla, CA, USA).

3. Results

3.1. Respondents

The email with the invitation to participate in the survey was sent to the members of the OPAI. Of all members, invites were sent to all 267 members who had valid or active email addresses (as on April 1, 2015; as per the official website www.opai.in). One of the first questions included the nature of the respondent's practice; all respondents who mentioned that they did not practice oculoplasty and who referred all oculoplasty cases to a specialist were automatically directed to the end of the survey and their responses were excluded from analysis. They survey saw a response rate of 46% with 124 respondents, but only 103 responses were considered valid as the rest indicated that they did not practice oculoplastic disorders and therefore chose not to continue with the survey. However, the total number of responses obtained to each question varied, given that respondents were allowed to skip questions; therefore in the analysis, results have been calculated depending on the number of responses received for each question. The average age of the respondents was 39 years (range: 27 to 80; median 38 years). The average experience of the respondents was 10.5 years in practice.

3.2. Conservative management

Respondents were asked up to what age do they advise lacrimal sac compression in children with uncomplicated CNLDO. A large proportion: 84% (73/87) respondents indicated that they advise lacrimal sac compressions up to 12 months of age. 14% (12/87) indicated two years age as their upper limit for advising sac massage. While comparing the responses of surgeons with less than 10 years of experience with those with 10 years or more experience, it was noted that the more experienced group were willing to persist with conservative management up to two years of age (8% versus

20%). This difference though was not found to be statistically significant.

3.3. Timing of nasolacrimal duct probing

The respondents were asked: 'What is the earliest age that you would advise nasolacrimal duct irrigation and probing in children with uncomplicated CNLDO?' Eighty-eight responses were obtained. 45% (40/88) chose 12 months and 43% (38/88) preferred 9 months of age as ideal for probing (Table 1). Based on experience, surgeons with more than 10 years or more of practice commonly preferred probing at 12 months age whereas those with less than 10 years experience preferred 9 months. However, this difference was not statistically significant.

Similarly, respondents were asked the oldest at which they would advise nasolacrimal duct probing in cases of uncomplicated CNLDO (previously untreated). The responses indicated that 62% (51/88) of the responding surgeons would prefer NLD probing in previously untreated children up to 5 years of age (Table 2). On comparing the two groups, surgeons with less than 10 years of experience were willing to advise NLD probing in children older than 8 years of age (up to 12 years): 29% versus 8%. This difference was statistically significant (*p* = 0.015) (Table 3).

3.4. Surgical management of CNLDO

3.4.1. Primary NLD probing

Respondents were asked to indicate whether they use any adjunctive procedure at the time of primary NLD probing. The options given were nasal endoscopy, silicon intubation, balloon dacryoplasty or none. Here, respondents were allowed to choose more than one response. Half the respondents (50%; 44/88), indicated that they use nasal endoscope in all their probings; 33% (29/88) indicated they preferred to intubate all their cases of NLD probing. However, 39% (34/88) indicated that they use no adjunctive technique. 31% (15/49) of surgeons in practice for less than 10 years preferred no additional equipment or procedure as compared to 49% (19/39) of those in practice for more than 10 years. Balloon dacryoplasty was the least preferred adjunctive procedure with only 7% (6/88) indicating their preference.

3.4.2. Failed NLD probing

Respondents were asked to indicate their plan of treatment after failed primary probing: 81% (71/88) indicated that they would repeat a NLD probing with the use of additional techniques as enumerated above, 17% (15/88) would prefer to perform a dacryocystorhinostomy (DCR) at later age. There was no difference in response based on years of experience.

3.4.3. Adjunctive procedures in repeat probing.

For repeat probing after an initial failed attempt, 36% of the respondents (32/88) preferred to use nasal endoscopy (if it was not used initially); 34% (30/88) indicated that they would use silicone intubation at the time of repeat probing; 26% (23/88) preferred none of the above methods. There was no difference based on experience.

3.5. Dacryocystorhinostomy (DCR)

Although 24% (21/86) of the respondents said they were trained in and could perform endoscopic DCRs, it was the surgery of choice for NLD for only 10% (9/88), with 86% (76/88) citing external DCR as their preferred surgical treatment in NLDO. Nonendoscopic endonasal DCR and Transcanalicular LASER assisted DCR were least favored by respondents.

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