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Long Term Study to Evaluate the Outcome of late Probing for Congenital Nasolacrimal Duct Obstruction (CNLDO) in Tertiary Centre in Hilly Region of Uttarakhand

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ABSTRACT

Aim*: Long-term Study to evaluate the outcome of late probing for Congenital Nasolacrimal Duct Obstruction (CNLDO) in the Tertiary Centre in the Hilly Region of Uttarakhand.* ***Method:*** *Children who underwent probing for CNLDO between January 2020 and December 2022 were reviewed and children aged over 24 months at the time of probing were included in the study. Before probing, each patient had a trial of massage and topical antibiotics. Successful probing was defined as a resolution of symptoms within 1 month after probing.* ***Results:*** *Forty-nine eyes of forty-one children fulfilled our inclusion criteria for this study. The mean age at probing was 36 months (range, 24 months to 60 months). The mean follow-up was 22 months (range, 1 month to 5 years). Probing was successful in 75.5% (37/49 eyes) of eyes.* ***Conclusion:*** *Late probing between 24 months and 5 years appears to be effective and should be attempted before going for complex procedures.*

Keywords: Nasolacrimal duct, Syringing, Probing

INTRODUCTION

Congenital Nasolacrimal Duct Obstruction (CNLDO) is one of the most common congenital abnormalities which occurs in 1.75% to 20% of infants [1]. Infants with CNLDO usually present with watering and discharge starting a few days after birth. The site of obstruction is most often in the inferior portion of the nasolacrimal duct at Hasner's

valve. However, the obstruction may occur at any level of the nasolacrimal system including the puncta, canaliculi, common canaliculus, and the Rosenmuller valve, etc [2]. Most cases of CNLDO improve spontaneously by lacrimal sac massage and do not require surgical intervention. However, around 10% of children do not improve with conservative treatment and require probing of Nasolacrimal Ducts (NLD). Difference of opinion exists between surgeons regarding the optimal time of intervention in persistent cases. Some authors advocate early probing of NLD which may be performed under topical anesthesia [3-5]. On the other hand, others argue that 96% of these cases improve spontaneously up to the age of one year with no need for intervention [6-10]. The present study was performed to evaluate the outcome of nasolacrimal duct probing in patients with CNLDO after the age of 24 months.

METHODS

This was a retrospective study conducted between January 2020 and December 2022 at the tertiary care center, in Uttarakhand, India. The medical records of patients with CNLDO who had undergone probing for the first time at the age of 24 months or later, during the study period were reviewed. Only patients operated by the author and followed for at least one month were included in this study. Patients with a history of acute Dacryocystitis, punctual or canalicular abnormalities, and a history of probing in the past were also excluded from the study. Probing was performed according to a uniform protocol under General Anesthesia: after dilatation of the superior punctum and passing a Bowman lacrimal probe through the nasolacrimal duct. The postoperative regimen included moxifloxacin 0.5% and dexamethasone 0.1% eye drops 3 times a day for one month. The procedure was considered to be successful if the epiphora and/or discharge were resolved within one month after probing.

RESULTS

During the study period, a total of 257 probing procedures were performed. Out of 257, 160 were older than 24 months and 132 were between 24 months and 5 years of age. After applying the exclusion criteria, 49 eyes of 41 children were available for analysis. 16 (39%) children were male and 25 (61%) were female. Unilateral and bilateral probing was performed in 33 (80.5%) and 8 (19.5%) subjects respectively. The mean age at the time of initial probing was 36 months (range, 1 month to 5 years). The mean follow-up was 22 months (range, 1 month to 5 years). Overall, initial probing was successful in 37(75.5%) cases and failed in 12 (24.5%) cases.

DISCUSSION

Probing of the Nasolacrimal Duct is the standard treatment for CNLDO. However, controversy exists regarding the success rate of probing in older children. The present study demonstrated the effectiveness of initial probing for CNLDO in patients between 24 months and 5 years. The success rate in our study was 75.5%. Sturrock and colleagues reported a success rate of 72% in the second year and 42% in children more than 2 years of age [11]. Young and associates stated a cure rate of 54% in children who underwent initial probing after 2 years of age [12]. Kashkouli et al reported a cure rate of 71.7%, in children undergoing probing between 25 months and 60 months of age [13]. Maheshwari reported an overall success rate of 76.92% in children probed between 2 years and 6 years of age [14]. Abrishami M et al reported an overall success rate of 75% in children probed over 15 months of age [15].

In our study, the success rate of initial probing between 24 months and 5 years of age was reasonably good but lower than the success rate of probing done during the first two years of age. Katowitz and Welsh believed that increasing the age after 13 months not only decreases the cure rate but also increases the number and complexity of future procedures [5]. There are two schools of thought regarding the lower cure rate with probing in older children. Some investigators suggested that it might be a result of chronic infection and fibrosis with increasing age [5]. Alternatively, Paul and Shepherd considered that it might be due to a self-selection process [4]. They suggested that possibly older children with CNLDO are more likely to represent the pool of children born with a more complicated type of obstruction.

CONCLUSION

In conclusion, late initial probing between 24 months and 5 years appears to be effective and should be attempted before going for complex procedures.

DECLARATIONS

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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