

Timing In Congenital Nasolacrimal Duct Obstruction

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ABSTRACT

In this study, 53 eyes of 39 patients who underwent probing for congenital nasolacrimal duct obstruction were retrospectively analyzed. Patients were divided into two groups according to the timing of the procedure. The operation time of the first group was 11-18 months and the second group was more than 18 months. After the procedure, efficacy and safety status were monitored.

Results: There were 21 female and 18 male patients. The mean age of the patients was 13.56 months in the first group, and 25.94 months in the second group. While 30 eyes of 22 patients were studied in the first group, 23 eyes of 17 patients were studied in the second group. The mean follow-up period was 26.15 months. The success rate was 96.7% in group 1 and 78.3% in group 2. No complication was observed during follow-up.

Conclusion: In the treatment of congenital nasolacrimal duct obstruction, the probing procedure is highly effective especially in the early age group. The procedure is also effective and safe in delayed cases.

Key Words: Probing, nasolacrimal canal, obstruction

Introduction

Congenital nasolacrimal duct obstruction (CNDO) is an important clinical condition that frequently occurs in pediatric patients and is characterized by epiphora, burrs and secretions in the eye. In untreated patients, it can cause serious complications such as dacryocystitis, preseptal and orbital cellulitis. In studies, the incidence of epiphora in infants was reported to be 6-20% (1,2,3). This obstruction, which is thought to be caused by a membranous structure, opens spontaneously within one year after birth at a rate of 80-90%. Medical treatment such as antibiotherapy and catheter application together with massage are the main treatment methods. Probing, bicanalicular silicone tube intubation and dacryocystorhinostomy treatments are performed for unopened obstructions until one year of age (4). However, there is no consensus on how long conservative treatment should be maintained and the timing of catheter application.

In this study, the success of treatment was compared in two groups as early and late periods in patients treated with medical therapy up to one year of age and probing after the 11th month.

Materials and Methods

The data of pediatric patients who presented with epiphora were reviewed retrospectively. Fifty-three eyes of 39 patients who underwent probing

with CNDO were included in the study. The diagnosis of CNDO was made with history and clinical examination findings and confirmed by the fluorescein disappearance test. For this test, a drop of 2% fluorescein solution was instilled into the lower conjunctival fornix of both eyes. The persistence of the dye after five minutes was considered to be obstruction. Probing was performed in patients older than 11 months. The procedure was performed under general anesthesia in the operating room. After entering (introducing) vertically through the upper punctum with the probe, it was passed through the canaliculus horizontally through the canaliculus. After reaching the nasal wall of the sac, the probe was pulled back slightly and brought to a 90 ° vertical position and advanced down the nasolacrimal canal. When it was felt that the obstructed area was reached, the membrane was ruptured and then irrigated with diluted betadine. The clearance of the passage was checked by betadine aspiration with a catheter placed in the lower meatus. After the procedure, topical antibiotic treatment was applied for one week. If watering eyes and burring was thought to be a continued problem, fluorescein disappearance test was performed in such suspicious cases. Probing was considered as successful with both negative fluorescein disappearance test and family report of no complaints, and no epiphora. In this study, the success rate of probing in CNDO cases and its relation with application time were

investigated in our clinic. Patients were divided into two groups according to the age at the time of the procedure. The procedures between the 11th and 18th month's age were classified as group 1 and after 18 months' age was classified as group 2. The first group was evaluated as early surgery group and the second group was evaluated as late surgery group.

Result

A total of 53 eyes of 39 patients who were diagnosed as CNDO and underwent probing in our clinic were included in the study. Twenty one (53.8%) patients were female and 18 (46.2%) were male. In the first group, 30 eyes of 22 patients were included in the study and the mean age was 13.56 months, whereas in the second group, 23 eyes of 17 patients were included in the study and the mean age was 25.94 months. In group 1, probing was performed bilaterally in 8, and unilaterally in 14 patients, in group 2, probing was performed bilaterally in 6, and unilaterally in 11 patients. The mean follow-up period was 26.15 months. Probing was successful in 47 (88.6%) of 53 eyes. Success rate of probing was 96.7% in group 1 and 78.3% in group 2. ($p < 0,05$)

Discussion

Treatment of congenital nasolacrimal duct obstruction without surgical procedure is theoretically possible both with lacrimal massage to push out the membrane covering the distal end of the lacrimal system, and the expansion of the narrow passage over time (5). In the medical treatment of CNDO, it is necessary to show the family how to apply the correct massage. Massage should be applied completely to the medial canthal area.

Despite conservative treatment, if epiphora and burrs persist, probing may be required. In some studies, the success rate of probing varies between 69% and 92% (6,7,8). Although the general approach is conservative treatment under 1 year of age, publications are suggesting that probing should be performed before 13 months. Although studies point out one year of age, in a study, the authors performed probing between 4 to 6 months of age. The disadvantage of the study was the absence of the control group (9). Therefore, the success of probing before the 12th month of age has not been compared with the spontaneous opening rate. However, if no response to antibiotic and massage therapy and with persistent

watering after the acute attack, probing should be done in the presence of dacryocystocele and dacryocystitis as soon as possible regardless of age (8).

As recommended in the literature, CNDO cases are followed up conservatively until the end of the 11th month in our clinic. In case of a high possibility of spontaneous relief of the obstruction, surgery and anesthesia should be avoided due to the possible complications. On the other hand; the prolonged duration of inflammation may reduce the success of treatment by increasing fibrosis in the obstructed region (10). Although there is a controversy on the timing of the probing surgery it was thought that probing should be applied to patients between 1 and 3 years of age.

In our study, probing success was 96.7% in the early period and 78.3% in the late period group. These rates are similar to the studies reported in our country. Probing is performed in our clinic up to 4 years of age. In children older than three years, we prepared silicone tubes in case of feeling difficulty to provide clearance during probing. Probing is an effective procedure for CNDO cases if the right timing and case selection are made and when performed in experienced hands. It should be kept in mind that if the patient is followed with conservative treatment in the first year of life, probing success may decrease after 12 months. Therefore, we believe that it is necessary not to be late for probing. Nevertheless, patients to be treated for the first time should be given the chance to probing even if it's late. Probing procedure is highly effective in the treatment of congenital nasolacrimal duct obstruction, especially in the early age group, but it is also safe and effective in delayed cases.

References

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