Probing of the Nasolacrimal Duct in Older Children – Weighing of Unexpected Outcome

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Aim: To assess the rate of success of a one time probing and syringing procedure in children older than 2.5 years of age.

Methods: 17 children who underwent probing and syringing for congenital nasolacrimal duct obstruction of varying severity and who were more than 2.5 years of age were included in this study. The procedure was followed by a uniform postoperative regimen of topical ocular and nasal medications and massage. The subjects were followed up postoperatively for 6 months. Outcome analysis was based on symptoms and clinical examination.

Results: All except 2 children responded well to the procedure with complete resolution of the nasolacrimal duct block.

Conclusion: It appears wise to perform a simple probing even in older children before going in for more invasive procedures.

The optimum age for probing and syringing as a treatment for persistent nasolacrimal duct obstruction is between 12 to 18 months as a general consensus though its not uncommon to find practitioners who carry on with the procedure on younger children as young as 6 months under restraint. As age advances the progressive firming of the surrounding bony walls make the passage of the probe an unpleasant affair leading to higher chances of failure. Chronic inflammation and fibrosis are other deterrents. Here we tried to find out what actually happens to such older children.

Methods:

The patients chosen for the study were children 2.5 years or older who presented to the Pediatric Ophthalmology OPD with congenital nasolacrimal duct obstruction, and had never undergone any invasive procedures for it. They were clinically examined for epiphora/discharge/regurgitation on pressure over lacrimal sac. All infections were treated by antibiotics topically. They also underwent a pediatric examination for fitness for ketamine anesthesia. During the procedure punctum dilatation was followed by probing with Bowman’s probes of increasing sizes. The extent of passage of the probe was noted, also the feel of the path of the probe transmitted during the passage to the examiner was also recorded. This was followed by syringing with detection of flourescein stained fluid in the nasal orifice. All children had a common post operative regimen of antibiotic steroid eye drops and a decongestant nasal drop with duct massage. These children were reviewed at 1 week, 1 month and 6 months and the presence or absence of epiphora and other symptoms were the outcome measures.

Results:

17 children who were aged >/= 2.5 years were taken up for the procedure. Their mean age was 4.34 years with the oldest children being two 8 year olds. 12 of them (70.5%) underwent the procedure in one eye while the rest got both eyes done. During the 1st visit 14 children were free of symptoms, whereas 1 more was cured of epiphora by the 2nd visit at 1 month. In 2 children (11.76%) epiphora persisted even at 6 months.

Discussion:

Nasolarimal duct obstruction manifests at birth due to the failure of canalization of the ectodermal cord of cells. Regular and frequent massage is the mainstay of treatment by which 95% of the cases resolve during the first year of life. Probing is resorted to at 1 year, but as the the child grows, resistance to the passage of the probe results in higher failure rates in older children. In our study we decided to proceed with probing as a prelude to a more invasive procedure like endoscopic DCR. It was worth it because most children could avoid the more expensive and slightly more prolonged procedure.

In all the other children the probe cleared the upper part of the passage well but a block and slight gritty feel were noted in some of the older ones. Of these probing turned out to be unsuccessful in an 8yr old and a 3 yr old as there was obstruction to further passage of the instrument. Similar studies have usually divided blocks into membranous and firm, the failure of probing more frequent in firm ones. The two abovementioned children later underwent an endoscopic laser DCR.

Thus in our study we had a 11.76% failure rate, whereas 88.23% of the children had a good outcome. In Dr. Honavar’s similar study with 60 children, the overall success rate after repeat probing was comparable at 80% while it was 73.3% after a single procedure in a similar age group. A better outcome was noticed in a group of children in Singapore(89%)(10). A difference between the present study...
and its predecessors is that most studies have included children 13 months and above as older children and most have a mean age in the range of 2 or 3 yrs. In this study, we have found that still older children have had success with a single procedure. Our postulates for this unexpected outcome include the assumption (which was supported by the history also) that most of these children have never practiced a sound therapeutic method like massage before, so this is just a reflection of the success they should have got before had their condition received better attention. Besides for a condition with a high rate of spontaneous resolution, this simple procedure acts as an aid.

Conclusions
Probing as a primary procedure in older children is advocated as contrary to conventional teaching it carries a good outcome.

References
1. Kashkouli MB et al Late and very late initial probing for congenital NLDO. British J Ophthalmol. 2003; 87 ;1151-1153.