Endoscopic Assisted Incision of Congenital Nasolacrimal Duct Occlusion

Epiphora caused by failure of the lacrimal duct to canalise fully in children is a common presentation to ophthalmologists. Where it persists after one year of age, it is usually successfully treated by nasolacrimal duct syringing and probing. If this fails, the patients are often referred on to a rhinologist. Treatment by dacrocystorhinostomy (DCR) can be performed externally by a trained ophthalmologist, or by a rhinologist using the endoscopic approach. This is a commonly performed procedure in adults with good results, however it may not be necessary in childhood. We present an example of epiphora in childhood treated successfully by endoscopic lacrimal duct rhinostomy.

Case report
An 18 month old child presented to the ophthalmologist at six months of age with a watery right eye. She underwent two syringe and probe procedures without success. She was then referred to the senior author, who arranged to carry out endoscopic surgery to the lacrimal system under GA.

Surgical technique
The patient is placed prone under general anaesthetic with the head turned slightly toward the surgeon and in a head towel, on a head ring. The affected nasolacrimal system is probed via the inferior and superior puncta, where a hard stop will be felt where the probe abuts the medial wall of the lacrimal sac. The probe is then turned to pass down the duct. On endoscopic examination of the inferior meatus, the probe can be seen bulging through the persistent membrane occluding the lower end of the duct which may represent an occluding valve of Hasner.

With the probe in place a keratomile blade can be used to incise the area and perform membrandotomy to expose the probe tip. This area should then be marsupialised to open the duct fully and oppose the mucous membranes.

Then the probe is removed and the now fully canalised duct can be syringed with diluted fluorescein to confirm it is patent with good flow. No stent is inserted.

No stent is left in the nasolacrimal duct as with DCR. This means there is no need to arrange removal in clinic or under general anaesthetic as may be necessary for children. Also since there is no foreign body left in the duct, routine post op eye drops are not necessary. At follow-up, this patient was noted to have good resolution of symptoms and a clean, healthy eye.

Discussion
This procedure can be used in children where the cause of the nasolacrinal duct obstruction is seen to be congenital rather than inflammatory as seen in adults. The technique can be thought of as form of endoscopic assisted probing. Others have reported using a similar technique.1 This demonstrates that even after failed probing and syringing, endoscopic assisted incision of the occluding membrane in the inferior meatus under direct vision can obviate the need for DCR which would have been performed otherwise. It also has the benefit of not involving stent insertion.

References
Contributors to How I Do It

Lorna E Langstaff,
ST3 in ENT,
York University Hospital,
York, UK.

David J Gatland,
Consultant ENT Surgeon,
Southend University Hospital,
Southend, UK.

Correspondence:
E: lorna.langstaff@doctors.org.uk