



ORIGINAL ARTICLE

Comparative Study of Primary Intention Lacrimal Probing With and Without Nasal Endoscopy[☆]



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Received 8 October 2013; accepted 9 February 2014

KEYWORDS

Congenital nasolacrimal duct obstruction;
Probing;
Endoscopy

Abstract

Objective: Our objective was to compare the results of probing with and without endoscopy in cases of congenital nasolacrimal duct obstruction without prior probing.

Methods: This was a retrospective analysis on 2 non-randomized cohorts, 36 simple soundings (group 1) and 36 soundings with endoscope (group 2), between January 2011 and January 2013. Both groups were similar in age and had no previous surgery. The age of the patients studied ranged between 8 and 27 months in the first group and between 7 and 30 months in the second group.

Results: The procedure was successful in 50% of the conventional probing group and in 97.22% in the endoscopy probing group. In this group 16.67% of the patients with tight inferior turbinate and 11.11% of those where the probe passed into the submucosal space were diagnosed and corrected intraoperatively. Some anomaly was observed in 30.56% of the patients undergoing endoscopy.

Conclusion: Although nasal endoscopy is classically reserved for unsuccessful probing, its use in primary intention increases the success rate of the procedure. In our study, 97.22% of the eyes had complete resolution of symptoms, avoiding a second surgery and the use of more expensive materials and techniques. Nasal endoscopy helps intraoperative visualization, understanding and management of congenital nasolacrimal duct obstruction and is the only method that confirms the correct anatomic position of the catheterisation in real time.

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[☆] Please cite this article as: Alañón-Fernández MÁ, Alañón-Fernández FJ, Martínez-Fernández A, Górgora MM, Calero B, López-Marín I, et al. Estudio comparativo entre sondajes lacrimonasales de primera intención con y sin control endoscópico. Acta Otorrinolaringol Esp. 2014;65:297–301.

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PALABRAS CLAVE

Obstrucción
nasolagrimal
congénita;
Sondaje;
Endoscopia

Estudio comparativo entre sondajes lacrimonasaes de primera intención con y sin control endoscópico

Resumen

Objetivo: Comparar los resultados de dos series de sondajes de primera intención, sin y con endoscopia nasal, acompañados en este segundo caso de luxación de cornete inferior y corrección de enfermedad del meato inferior si la hubiera, en casos de obstrucción nasolagrimal congénita.

Métodos: Se practica un estudio de cohortes retrospectivos con 36 sondajes simples (grupo 1) frente a 36 sondajes con endoscopia (grupo 2), entre enero de 2011 y enero de 2013, en 2 grupos de población parecidos sin intervenciones previas. El rango de edad fue entre 8 y 27 meses en el grupo 1 y entre 7 y 30 meses en el grupo 2.

Resultados: El 50% de cirugías lagrimales fueron realizadas con éxito en el grupo de los sondajes sin endoscopia, frente al 97,22% en el grupo guiado por endoscopia. En el grupo 2 se diagnosticó y corrigió intraoperatoriamente un 16,67% de vías lagrimales con aposición del cornete inferior en su porción distal y un 11,11% de falsas vías o trayectos submucosos.

En un 30,56% de los sondajes practicados con endoscopia se observó más de una anomalía nasolagrimal, tanto a nivel del canal como en el meato inferior, que influía negativamente en su funcionamiento.

Conclusión: Aunque clásicamente se ha reservado la endoscopia para fracasos quirúrgicos en reintervenciones, su utilización de primera intención mejora significativamente los éxitos. En nuestra serie un 97,22% tuvieron resolución completa de los síntomas, evitando un segundo paso por quirófano y la utilización de materiales y técnicas más costosas. Nos ayuda a la visualización y compresión de esta enfermedad y es el único método para confirmar directamente un correcto sondaje en tiempo real.

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Introduction

Symptomatic congenital nasolachrymal obstruction is a common clinical problem, estimated to occur in 6% of the newborns. The most frequent aetiology is found at the level of Hasner's valve, between the lachrymonasal duct and the inferior meatus.

Between 85% and 95% resolve spontaneously in under a year.

Success rates of probing in the first year vary between 50% and 90%. This decreases if it has to be repeated to between 25% and 64%.¹⁻³ Probing is a blind procedure and the surgeon's only guide is tactile sensation.

Recent and ongoing advances in the image provided by endoscopy of the nasolachrymal system with direct visualization of the area to be treated enable diagnosis of anomalies in this area such as cysts, elastic membranes and tight inferior turbinate; they have meant avoiding complications such as passing into the submucosal space, false passages, punctiform orifices, haemorrhage and trauma to the nasal cavity,⁴ and contribute towards successful surgical outcomes.

Our objective in this article is to compare the results of 2 groups of probing without prior surgery, with and without nasal endoscopy, in cases of congenital nasolachrymal obstruction.

Material and Method

A retrospective cohort study was undertaken.

Diagnosis was based on a clinical history of epiphora and purulent secretion starting shortly after birth and the

fluorescein disappearance test (Table 1), which is to assess the amount of stain retained in the lachrymal meniscus 5 min after inserting a drop of 2% fluorescein at the base of the conjunctival sac.

None of the patients had a history of surgery.

All the operations were performed between January 2011 and January 2013.

Thirty-six tear ducts in 10 girls and 15 boys between 8 and 27 months (mean: 14.3 months) were operated using a conventional probe without endoscopy in our hospital (Group 1).

Thirty-six tear ducts in 14 girls and 12 boys between 7 and 30 months (mean: 15.1 months) were operated with endoscopy in our clinic (Group 2).

There were no clinically significant differences in terms of laterality.

Endoscopic surgery was performed by the same team: an ENT surgeon (MAAF) and an ophthalmologist (FJAF).

The guardians accepted informed consent verbally and in writing.

Both types of operations were performed under anaesthetic sedation without airway intubation. Both tear ducts were dilated and a channel created in both canaliculi using a number 0 Bowman probe (0.71 mm in diameter) in the 2 groups.

A cotton swab soaked in 1% tetracaine and epinephrine 1:100.00 for vasoconstriction and appropriate visualization was placed in the nasal cavity 5 min before the endoscopic surgery, and 2 drops of anaesthetic solution 1 mg/ml tetracaine and 4 mg/ml oxybuprocaine (*Colirio Anestésico® Doble*; Alcon Cusí S.A.; Barcelona, Spain) were instilled in the base of the lower conjunctival sac, 2 min before surgery.

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