A STUDY OF DACRYOCYSTITIS IN PAEDIATRIC AGE GROUP

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ABSTRACT

BACKGROUND

Dacryocystitis in infants is a serious complication of congenital, but seldom of acquired nasolacrimal duct obstructions. If conservative treatment fails, dacryocystorhinostomy (DCR) appears to be effective. The indications, special clinical history and results will be reviewed.

PATIENTS AND METHODS

From January 2006 to December 2010, a total of 30 children prospectively were involved in the study (26 male, 4 female) with persistent dacryocystitis (4 patients) were treated surgically by DCR and were continuously documented. The patients ranged in age from 10 months to 14 years old (mean age 4.9 years). Included in our study were 16 children (12 male, 4 female) with 4 surgically treated lacrimal ducts.

RESULTS

The cause of dacryocystitis was congenital obstruction in 13 children and trauma (maxillary fracture) in 1 child, respectively. Of these, 2 children (15%) had additional anomalies of the lacrimal system, 1 (7.6%) systemic malformations and 8 out of the 30 children (26%) had a family history of nasolacrimal duct obstruction. We found a functional success rate (with complete resolution of symptoms) of 90% (27 out of 30 lacrimal ducts) over follow-up periods ranging from 1 month to 4 years (average 1 years). 8 children probing were done and remaining 18 children were managed conservatively.

CONCLUSION

Patients with persistent dacryocystitis due to congenital nasolacrimal duct obstruction have a prevalence of further nasolacrimal abnormalities and a family history In the case of persistent dacryocystitis, DCR is indicated after the age of 1 year and has the same success rate in infants as in adults (90-95%).

KEYWORDS

Dacryocystitis, Obstruction, Naso-lacrimal, DCR, Probing.

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INTRODUCTION: Dacryocystitis in infants occurs as the result of an obstruction at the lower end of the naso-lacrimal duct which may be developmental or acquired in origin, and the treatment will depend upon the nature of this obstruction.[1]

Obstruction of the naso-lacrimal drainage system is extremely common in the paediatric age group, occurring in as many as 20 – 30% of newborns.[2, 3] but only 1% to 6% of these children become symptomatic.[2-4]

The relationship between infantile dacryocystitis and delayed development of the naso-lacrimal duct was first suggested by Peters (1891).[1] Although, as has been stated, it is generally assumed that the presence of a developmental membrane at the lower end of the naso-lacrimal duct is the cause of infantile dacryocystitis, there are conflicting views as to how it should be treated.

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Cassady (1948), in an extensive review of the literature, found fifteen papers which recommended early probing and eighteen which favoured conservative treatment with local antiseptics and massage.[5]

There is controversy in terms of early probing and conservative management and few of them even suggesting surgeries for traumatic and congenital malformations.[6]

This study is undertaken for evaluating the treatment.

MATERIALS AND METHODS: A prospective study was done of 30 consecutive children presenting to OPD with naso-lacrimal duct obstruction.

Inclusion Criteria: All children with naso-lacrimal duct obstruction.

Exclusion Criteria:

- Age > 13 yrs.
- Past history of lacrimal duct surgery.

RESULTS: A total of 30 children prospectively were involved in the study.

Total numbers of males in the study were 26 males and 4 females.

4 Children with persistent dacryocystitis were treated with Dacryocystorhinostomy

The patients ranged in age from 10 months to 14 years old (mean age 4.9 years).

Included in our study were 30 children (26 males, 4 females) with 4 surgically treated lacrimal ducts

8 children probing were done and remaining 18 children were managed conservatively.

Appropriate antibiotics were used wherever indicated.

DISCUSSION: The lacrimal drainage system begins forming at approximately 6 weeks of gestational age as a depression, termed the lacrimal groove. A solid cord of ectoderm is eventually buried as the mesoderm develops and extends from the eyelids to the nose.

Canalisation of the cord begins at approximately 3.5 months of gestational age and is usually completed at or near the time of birth, with the lower level of the system being the last to open. Anomalies may occur anywhere along the course of the system.[2, 4] Atresia of the nasolacrimal duct or dacryostenosis is the most common cause of epiphora in paediatric population. It is thought to result from failure of the canalisation of the column of epithelial cells that form the naso-lacrimal duct. The most common site of obstruction is at the mucosal entrance into the nose (valve of Hasner) under the inferior turbinate.[4]

Probing has been a time proven treatment for congenital naso-lacrimal duct obstruction. But there is controversy regarding the timing of probing and its outcome in older children. Early correction avoids months of morbidity due to epiphora and chronic dacryocystitis.[7,8]

Mac Ewen and Young, who followed a cohort of nearly 5000 infants and 96% children had spontaneous remission of their obstruction by age one.[9]

Kushner, Honavar et al and Kashkouli et al [10] showed naso-lacrimal duct obstruction can be either membranous or complex. The complex obstruction (firm, non-membranous, or complicated) have been identified as a major risk for the probing failure. The simple or membranous obstruction is cured by simple probing while complex or more severe obstructions might not open by simple probing and may require further surgical intervention at a later age.

Sl. no.	Procedure	No. of Patients
1	Conservative Treatment	18
2	Probing	8
3	Surgery	4
	Total	**30**

Table 1

CONCLUSION: Probing has been time proven procedure. In the case of persistent dacryocystitis, DCR is indicated after the age of 1 year and has the same success rate in infants as in adults (90-95%).[10]

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