

# Evaluation of Non Surgical Management in Resolution of Congenital Blockage of Nasolacrimal Duct.

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## ABSTRACT

**Background:** Congenital Nasolacrimal Duct Obstruction (NLDO) affects 1% to 20% of infants. The non-surgical treatment includes lacrimal sac massage, whereas some cases need surgical intervention. The present study was conducted to prove that maximum number of cases resolve within six months of non-surgical management in infants aged new born to one year. **Methods:** This is a prospective and observational study in which 319 infants suffering from Congenital Nasolacrimal Duct Obstruction were treated with lacrimal sac massage and topical antibiotics. The symptoms of the patient were assessed after six months of treatment. **Results:** In infants new born to 8 months of age (233 eyes), more than 50% with NLDO will resolve within 6 months with non-surgical management. **Conclusion:** So the experience of rate of NLDO resolution in infancy without surgery will help clinician and parents effectively discuss treatment options.

**Keywords:** Congenital, Naso-lacrimal duct, Treatment.

## INTRODUCTION

Congenital Nasolacrimal Duct Obstruction (NLDO) is one of the most common ocular conditions of infancy, occurring in an estimated 1% to 20% of infants. Most cases resolve spontaneously or after lacrimal sac massage. Although surgical treatment is considered for patients whose symptoms, persist past six months of age. One treatment option is to perform the probing in the office setting, using topical anaesthesia and infant restraints.<sup>[1]</sup> Such office based probing is most often used in children less than 1 year of age because older infant may be too strong to be sufficiently restrained for procedure to be performed safely in office.<sup>[2]</sup>

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### Aim:

A retrospective interventional study was conducted at Teerthanker Mahaveer Medical College in Department of Ophthalmology from June 2015 to Dec 2015 to know how often Congenital Nasolacrimal Duct Obstruction (NLDO) resolves within six months of non surgical management in infants aged new born to one year.

## MATERIALS AND METHODS

319 infants with Congenital Nasolacrimal Duct Obstruction (NLDO), from new born up to 1 year of age of either sex were enrolled in this study.

**Criteria for inclusion** were age from new born to one year of age, without prior probing or surgical intervention.

**Exclusion Criteria** older than one year, prior probing or surgical intervention done were excluded from study.

As part of a study 319 infants aged new born to one year and older age group who had NLDO and no history of Nasolacrimal Duct Surgery were prescribed three month of Nasolacrimal Duct massage and topical antibiotics as needed. Resolution of the NLDO was assessed six months after study entry and was defined as the absence of all clinical signs of NLDO (Epiphora, Increased tear lake, or mucous discharge) and not having undergone NLDO surgery. Exploratory analysis assessed whether baseline characteristics, including age, sex, laterality and prior treatment, were associated with the probability of NLDO resolving without surgery.

## RESULTS

Total 319 infants were included in this study. Those were categorized in this study 319 infants were included those were basically categorized in three

groups. (a) New born to 5 months of age in which total no. of infants were 121, 86 male and 35 female. (b) 5 months to 8 months- total no. 112 out of which 74 were male, 28 female. (c) third group comprised of 96 infants out of which 68 were male and 28 female. In all these infants there was no history of surgical intervention. 3 months of NLDO massage and topical antibiotics drops were needed.

Resolution of NLDO was assessed 6 months after study. And was defined as the absence of all clinical signs of NLDO (Epiphora, increased tear lake, or

Mucous discharge) and not having undergone NLDO surgery.

Percentage of Resolution was encouraging and was around 50%. In-group I, new born to 5 months of age complete resolution in 43 male was 50% and 17 female was 48.5%. In-group II, it was 51.35% in 38 male and 50% in 14 female (age group was 5<sup>th</sup> to 8<sup>th</sup> months). In-group III, where age group was 8 months to 1-year complete resolution was recorded in 33 male was 48.52% and in 14 female was 50%. And mean percentage was 49.95% and in female 49.5%.

**Table 1: Age x sex %**

Group I	AGE	
	Total no. Of patients	121
	New born to Five months of age	
	Male	Female
	86	35
Group II	Five months to Eight months	
Total no. Of patients	112	
	Male	Female
	74	28
Group III	Eight months to 1 year	
Total no. Of patients	96	
	Male	Female
	68	28
Total	Total Male	Total Female
319	228	91

**Table 2: Showing age versus percentage of Symptom Resolution**

Group I	New born to Five months of age	
	Male	Female
	(43) 50%	(17) 48.5%
Group II	Five months to Eight months	
	Male	Female
	(38) 51.35%	(14) 50%
Group III	Eight months to 1 year	
	Male	Female
	(33) 48.52%	(14) 50%
Average Percentage	Average 49.95%	Average 49.5%

## DISCUSSION

Congenital Nasolacrimal Duct Obstruction is the condition in which a tear duct has failed to open at the time of birth. Around 6% of infants have CLDO, usually experiencing a persistent watery eye even when not crying.<sup>[2,3]</sup>

The condition is also known as dacryostenosis. If a secondary infection occurs, (Dacryocystitis) purulent (yellow/green) discharge may be present.<sup>[4]</sup>

Most cases resolve spontaneously with antibiotics reserved only if conjunctivitis occurs. Lacrimal sac massage has been proposed as helping to open the duct, though this is not always successful. The aim of massage is to generate enough hydrostatic pressure, downwards towards the nose, to “pop” open any obstruction. Additional massage may then be performed up towards the lacrimal punctum in order to express any infectious material out of the nasolacrimal sac.<sup>[5-7]</sup> When discharge or crusting is present, the lid should be gently cleaned using cooled preboiled water or saline.

Referral to an Ophthalmologist is indicated if symptoms are still present at 12 month, or sooner if significant symptoms of recurrent infection occur. Nasolacrimal duct probing may be performed.<sup>[3,7]</sup>

## CONCLUSION

In infants new born to 8 months of age (233 eyes), more than 50% with NLDO will resolve within 6 months with non-surgical management. So the experience of rate of NLDO resolution in infancy without surgery will help clinician and parents effectively discuss treatment options.

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