ABSTRACT

**Objectives:** 1) Describe the clinical and radiologic presentation of congenital dacryocystoceles. 2) Discuss the management of this condition. 3) Review the existing literature.

**Methods:** Illustrative case report and literature review.

**Results:** This is a report of a 2 day-old female who had progressively worsening episodes of desaturations throughout the first day of life. A & #5; French catheter was passed through both nasal cavities into the nasopharynx, but a & #8; French catheter could not be passed. The infant required endotracheal intubation for progressive respiratory distress. A Computer tomography (CT) of the head revealed bilateral dacryocystoceles causing significant narrowing of the nasal cavities bilaterally. The baby was taken to the operating room for marsupialization of the cyst and lacrimal duct probing with silicone tube placement. The patient was extubated immediately after the procedure and was discharged home shortly thereafter.

**Discussion:** Neonates are obligate nasal breathers and as such, obstruction of the nasal airway may be life-threatening. Congenital dacryocystocele is a rare anomaly and when present bilaterally in the neonate, respiratory problems may ensue. Recognition of this entity is important as surgical management typically leads to immediate clinical improvement.

**Conclusions:** Bilateral dacryocystoceles in the newborn is an unusual cause of neonatal respiratory distress. Neonatologists, pediatricians, ophthalmologists, and otolaryngologists need to be aware of this condition as surgical intervention is usually required.

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**INTRODUCTION**

Congenital obstruction of the nasolacrimal duct is common, but is usually asymptomatic. Obstruction may occur proximally near the nasolacrimal sac or distally where the duct opens into the inferior meatus. A rare anomaly arises when there is cystic dilation of the distal portion of the nasolacrimal duct with intranasal extension. This nasolacrimal duct cyst has also been referred to as dacryocystoceles, dacryocystocele, mucocele, amniocoele, and amnios. This manifests as a bluish-gray cyst under the inferior turbinate that typically displaces the inferior turbinate medially towards the nasal septum. When these cysts present bilaterally in the newborn, they can cause significant respiratory distress. We present a case of bilateral dacryocystoceles causing nasal obstruction and respiratory compromise necessitating surgical intervention.

**CASE REPORT CONT’D**

The inferior turbinates were outfractured on both sides using a Freer elevator. The patient was extubated in the operating room at the end of the procedure. The patient did well postoperatively and was discharged home on postoperative day #2.

**DISCUSSION CONT’D**

Dacryocystoceles are the second most common anatomic cause of neonatal nasal obstruction after choanal atresia and occur bilaterally in 10% of cases. When the intranasal cystic component is large and bilateral, it may lead to respiratory distress in neonates who are obligate nasal breathers. In a report of 22 patients with 30 dacryocystoceles, 71% of patients with bilateral intranasal mucoceles had some respiratory distress and feeding difficulties.

Evaluation of infants with a suspected dacryocystocele should include an ophthalmologic examination and nasal endoscopy. However, visualization of the inferior meatus in neonates may be difficult and CT may be useful in identifying the site of obstruction and preoperative planning. Characteristic CT findings include a cystic mass centered around the medial canthus, a typical lacrimal sac swelling since most of the distention occurs intranasally.

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**CASE REPORT**

This is the report of a 2 day-old term female that was transferred to our institution after requiring intubation for worsening respiratory distress. The baby was born via caesarean section without any complications. The baby was transferred to the neonatal intensive care unit for monitoring. Over the next few hours, the patient had intermittent episodes of oxygen desaturation. A & #5; French catheter was then passed through both nasal cavities into the nasopharynx, but a & #8; French catheter could not be passed. The baby continued to have episodes of oxygen desaturation and increased work of breathing throughout the first 12 hours of life and ultimately required endotracheal intubation. A CT of the head revealed bilateral dacryocystoceles with dilated nasolacrimal ducts causing supero-medial deflection of the inferior turbinates (Figures 1, 2). This caused significant narrowing of the nasal cavities bilaterally. The Otolaryngology service was consulted and flexible nasal endoscopy revealed cystic masses lateral to both inferior turbinates causing medial displacement and bilateral nasal obstruction (Figure 3). The baby was taken to the operating room with Otolaryngology and Ophthalmology for endoscopic decompression of the nasolacrimal duct cysts and nasolacrimal duct probe and intubation with silicone tubes. Rigid nasal endoscopy was used to visualize the nasolacrimal duct cysts, which were marsupialized bilaterally using a microdebrider. Then, a punctal dilator was used to dilate the upper and lower puncta bilaterally. Number 0 nasolacrimal duct probes were then passed successfully through both upper and lower puncta and visualized endoscopically within the inferior meatus. Monocanicular silicone tubes were then placed bilaterally (Figure 4).

**REFERENCES**