Greetings

Dear Colleagues:

This edition of the newsletter features a brief article on a very common pediatric eye problem in babies. Tearing. It is written by Dr. Lora Glass, one of our outstanding oculoplastics specialists. The article is intended to provide clinically relevant information that will help primary care practitioners on the front lines provide sound, informed management for their pediatric patients with eye issues. We also provide an EyeQ test to challenge your ophthalmic knowledge, as well as updates on the many things that are going on in the Division of Pediatric Ophthalmology at Columbia University Medical Center. As always, copies of this and prior newsletters, as well as detailed information about our physicians, services, and facilities can be found on our webpages at www.columbiaeye.org. We want to remain an important resource for both you and your patients.

Nasolacrimal Duct Obstruction

The nasolacrimal system drains our tears. It begins with the lacrimal puncta (small holes on the eyelids) which open into small channels (canaliculi), which then empty into the lacrimal sac; the lacrimal sac then drains through the nasolacrimal duct into the nose (Figure 1). Obstruction of the nasolacrimal duct (NLDO) at any level can lead to tearing and infection. It is clinically helpful to divide NLDO into congenital and acquired pathologies.

Congenital

In congenital NLDO, an imperforate membrane covers and obstructs the distal-most end of the duct. Although up to 6% of NLDO-related epiphora (Fig. 2) at 1 month of age, with up to 1/3rd being bilateral, the vast majority of cases resolve spontaneously by age 1 year. Parents can encourage resolution with massage of the nasolacrimal sac region, thereby attempting to increase the internal pressure in the system. Antibiotic eye drops may be needed if the drainage becomes purulent. However, if severe or repeated infection occurs, or the NLDO does not resolve by 1 year of age, outpatient surgical intervention may be required. Most often this consists of passing a small probe through the system to penetrate through the distal membrane. A less common condition, a congenital dacryocystocele, results from an obstruction both above and below the sac. (continued on page 2)
EyeQ Test:

1. Congenital nasolacrimal duct obstruction typically
   a. occurs on the left side
   b. is due to an accumulation of amniotic fluid in the nasolacrimal duct
   c. follows a complicated pregnancy
   d. spontaneously resolves over several months in the majority of cases

2. Tearing and photophobia in the newborn can be a presenting sign of
   a. retinoblastoma
   b. coats disease
   c. congenital glaucoma
   d. CHARC syndrome

3. Asymmetry of the red reflex can be caused by all of the following except
   a. Anisometropia
   b. Optic nerve hypoplasia
   c. Cataract
   d. Strabismus

4. Current guidelines suggest that the red reflex should be checked
   a. At least twice per year
   b. Only once, at age 3 years
   c. At all well-child visits in preverbal children
   d. In a darkened room
   e. C and D

5. A 4 month old with constant esotropia should be
   a. Seen again in 6 months
   b. Reassured that this is a normal finding
   c. Sent for an MRI of the brain and orbits
   d. Referred to a pediatric ophthalmologist because this is not a normal finding.


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Present at birth, it appears as a bluish nodular swelling of the sac, and is filled with mucous and amniotic fluid. Prompt probing is required in these cases, sometimes with endoscopic assistance, because of the high risk of serious infection with abscess formation.

Acquired

Acquired NLDO is much less common than congenital NLDO, and typically presents in older children. It can be due to events inciting bony pathology, such as nasal fractures; mucosal swelling, as may occur with allergies; or scarring. Bloody tears might indicate the presence of a malignancy causing obstruction.

The diagnosis of acquired NLDO is confirmed with canalicular irrigation, in which fluid injected into the lacrimal sac is noted to reflux towards the examiner rather than draining anterograde into the nose. If NLDO is thought to be due to mucosal swelling, initial therapy should include efforts aimed at decongestion and reduction of nasal inflammation. However, most acquired NLDO requires more aggressive treatment approaches, such as a dacryocysto-rhinostomy, for effective resolution.

It is important to note that whether congenital or acquired, NLDO diagnosis requires that other causes of epiphora, such as ocular surface irritation (e.g. from dry eyes, allergy, or eyelash misdirection), conjunctivitis, and even glaucoma be ruled out. For this reason, it is important to send pediatric patients with significant tearing to a pediatric ophthalmic specialist.

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Division News

Genomic Medicine (IGM), to develop efficient clinical pathways for patients. We are excited by the potential this service will offer for both scientific discovery and precision patient care. We will keep you updated on the progress in this exciting and complex arena.

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At left: (Figure 2) - Epiphora and crusting in NLDO.