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Galhenage I.M.J.

UPDATES ON CONGENITAL ANOMALIES OF THE LACRIMAL APPARATUS

Tutor: PhD, associate professor Huseva Y.A.
Department of Human Anatomy
Belarusian State Medical University, Minsk

The relevance of studying congenital anomalies of the lacrimal apparatus is due to their high frequency in the structure of the ocular disorders. This poses significant challenges in pediatric populations, necessitating prompt diagnosis and appropriate interventions to mitigate complications such as persistent tearing, dacryocystitis, orbital cellulitis and bacterial infections.

Clinically, nasolacrimal duct obstruction (NLDO) is the most common congenital lacrimal anomaly, affecting approximately 6–20% of newborns which is caused by the atresia of the lower ostium of the duct with the membrane. Aplasia, hypoplasia or aberrant lacrimal gland, its cysts or fistula may be present rarely at birth. Lacrimal sac mucocele and fistula have a high probability becoming infected.

The anomalies of the lacrimal apparatus are based on disorders of its embryogenesis from a solid cord of epithelial cells that originate from the outer layer of the embryo. The disruptions in the normal process of canalization or migration can lead to puncta agenesis in which the lacrimal puncta are absent; canalicular atresia, narrowing, deformation, splitting, dislocation, diverticula or duplication; dacryocystocele, NLDO and the complete absence of the lacrimal apparatus. “Crocodile tears” can be caused by the congenital misorientation of the seventh pair of cranial nerves.

These irregularities potentially linked to systemic genetic anomalies, may appear independently or in conjunction with craniofacial abnormalities to result in the systemic disorders which add complexity to the diagnosis and management of the condition.

The elaboration of the new methods of treatment of the congenital anomalies of the lacrimal apparatus is relevant in persistent cases, particularly for children who are at least one year old, in which repeated probing, silicone tube intubation with balloon catheter dilation, or dacryocystorhinostomy are used.

In conclusion, the knowledge of the congenital lacrimal system anomalies is crucial for accurate diagnosis and appropriate treatment planning in order to prevent complications and achieve the best management of lacrimal system disorders.