Right Choanal Stenosis
Joseph Junewick, MD FACR
01/12/2010

History
Inability to pass catheter through right nares in a newborn.

Diagnosis
Right Choanal Stenosis

Discussion
Choanal atresia/stenosis is an important cause of airway obstruction. It can be unilateral or bilateral, boney or membranous. The etiology of choanal atresia/stenosis is not known. Medial bowing and thickening of the walls of the nasal cavity (perpendicular plate of palatine bone and the pterygoid process) or enlargement of the vomer leads to stenosis whereas fusion of these element results in atresia. Occasionally, membranes contribute to the nasal airway obstruction. The diagnosis is suggested clinically by respiratory distress relieved by establishing an oral airway and corroborated by inability to pass a nasal catheter. Bilateral disease usually presents in the neonatal period. Inability to breath through one nostril and unilateral constant stuffiness and increased nasal discharge suggests unilateral involvement. Unilateral involvement is often diagnosed later in childhood.

Choanal atresia is associated with CHARGE syndrome (coloboma, heart defect, atresia of the choanae, retarded growth, genital anomalies and ear defects), craniosynostosis, facial clefts, chromosomal defects, various syndromes (e.g., Treacher Collins, DiGeorge, Crouzon, de Lange, Antley-Bixler, fetal alcohol) and gastrointestinal anomalies (malrotation, tracheoesophageal fistula).

Findings
CT-Axial and coronal reformatted images of the face demonstrate medial pinching of the right maxilla towards the vomer, constricting the posterior nasal cavity. Secretions are pooled in the nasal cavity. Note that the cribiform plate is cartilaginous and should not be confused with encephalocele.

Reference
Disclaimer
This teaching site is partially funded by an educational grant from GE Healthcare and Advanced Radiology Services, PC. The material on this site is independently controlled by Advanced Radiology Services, PC, and GE Healthcare and Spectrum Health have no influence over the content of this site.

Content Download Agreement
The cases and images on this website are owned by Spectrum Health. Permission is granted (for nonprofit educational purposes) to download and print materials to distribute for the purpose of facilitating the education of health professionals. The authors retain all rights to the material and users are requested to acknowledge the source of the material.

Site Disclaimer
This site is developed to reach healthcare professionals and medical students. Nothing this site should be considered medical advice. Only your own doctor can help you make decisions about your medical care. If you have a specific medical question or are seeking medical care, please contact your physician.

The information in this website is provided for general medical education purposes only and is not meant to substitute for the independent medical judgment of a physician relative to diagnostic and treatment options of a specific medical condition.

The viewpoints expressed in these cases are those of the authors. They do not represent an endorsement. In no event will Advanced Radiology Associates, PC, Spectrum Health Hospitals (Helen Devos Children's Hospital) or GE Healthcare be liable for any decision made or action taken in reliance upon the information provided through this website.