Presentation of choanal atresia in Saudi children

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Nasal obstruction is an unpleasant dysfunction that can be very disturbing to the patient. This can result in loss of basic function of the nose, which include breathing, humidification, protection, adjusting temperature, and smell. However nasal obstruction in neonates may be life threatening situation. The reason for this is that newborn is an obligate nasal breather within the first 6-8 weeks of life.

Congenital choanal atresia (CA) is a rare anomaly, which can be responsible for nasal obstruction. It was first described by Roederer in 1755. Emmert reported a boy, which he had performed 3 years earlier using a curved trocar transnasally.

ABSTRACT

To present data of cases with choanal atresia (CA) from Saudi patients, and to compare them to the data from the international literature.

A retrospective analysis of the data available from the files of 37 consecutive patients with the diagnosis of CA at King Abdul-Aziz University Hospital, Riyadh, Kingdom of Saudi Arabia between January 1999 and December 2005. This involved reviewing the age, gender, presenting symptoms, associated anomalies, surgical intervention, and outcomes.

Methods.

Thirty-seven consecutive patients diagnosed with choanal atresia (CA) were managed at King Abdul-Aziz University Hospital (KAUH), Riyadh, Kingdom of Saudi Arabia between January 1999 and December 2005. This involved reviewing the age, gender, presenting symptoms, associated anomalies, surgical intervention, and outcomes.

Results.

Twenty-three of our cases had unilateral and 14 had bilateral CA. Strikingly, 83% of unilateral CA involved the right side. In our study, we found the female to male cases had other associated congenital anomalies. Most of our cases had their surgical intervention by endoscopic children, female is more commonly affected than male. the cases of unilateral CA.

Conclusion:

Choanal atresia is a rare anomaly. In Saudi children, female is more commonly affected than male. There is a striking rate of involvement of the right side in the cases of unilateral CA.

Reviewing the English literature, many have been written regarding this anomaly. This raises the following question; do we have similarity between et al7 patients, managed at a university hospital in Riyadh, available data to international literature.

Methods.

diagnosed with choanal atresia (CA) were managed
of microdebrider, drill and backbiting forceps. All of involved the use of thin telescope (2.7 or 4 mm), use because of medical reasons. Endoscopic repair choana. Two of the patients were not operated upon, because of medical reasons. Endoscopic repair...

Results.

and 25 years. There was only 2 adults, the rest of our cases presented at relatively younger age (mean of 3 months) compared to the age in unilateral cases (mean $p<0.001$. Initial surgery was carried before the age of 2 months. However, the rest of bilateral cases were managed surgically somewhere else but restenosed. For them revision surgery was cases had left side CA. There was a need to secure the airway by oropharyngeal airway or endotracheal intubation for the neonates and young infants with bilateral CA in this study, until the time of the involvement of one side or both sides of the posterior choana and normal function. Only 5 of our patients had CA (representing 36% of the bilateral cases) and 5 had bilateral CA (representing 30% of the unilateral cases), and 5

isolated congenital anomalies were seen in 5 of the cases, 5 cases had variable syndromes, and 2 cases of bilateral CA had ocular colobomas, heart defects, choanal atresia, retarded growth and central nervous system issues genitourinary hypoplasia, and ear anomalies (CHARGE) association.

Thirty of our patients underwent endoscopic surgical repair of the posterior choana. Five cases had choana. Two of the patients were not operated upon, because of medical reasons. Endoscopic repair t

cases with pure bony atresia. There was no case with to open CA among all of our cases ranged between patients who underwent surgical intervention had choana and normal function. Only 5 of our patients had patent posterior choana after repair.

Discussion. Congenital posterior choanal atresia is a relatively rare condition resulting from a failure of the stomodeum in early embryogenesis. Commonly, it affects female more than male, with a ratio of 2:1. Clinical presentation of CA cases is based on the respiratory distress and cyclical cyanosis at birth. The symptoms are classically relieved by crying and management with either oropharyngeal airway, is performed. However, bilateral CA can still present neonates with bilateral CA can still breath orally. with less acute features, such as unilateral nasal congestion and discharge, which commonly manifests latter on life. From our results there was a statistically a mean age of 3 months for the bilateral cases and was more common than bilateral CA in our study

they found that the ratio of unilateral to bilateral CA was almost 1:1. Choanal atresia involving the right side is more common than in the left side. of unilateral cases. There is no association between maternal age and CA. was not available in our records to evaluate its effect on the occurrence of this anomaly. The proportion of infants with CA and associated other malformations
were associated with other anomalies.

and bilateral cases in association with other congenital anomalies.

The only 2 cases of CHARGE association were seen in cases with bilateral CA. The term CHARGE should be restricted to infants with multiple malformations, and choanal atresia or coloboma, combined with other cardinal malformations (heart, ear, and genital) and with a total of at least three cardinal malformations.7,12

they showed bony atresia only. Reports in the literature are showing a grage variation.13 found no posterior choana is the way to restore normal airway in cases with CA. Many surgical approaches are used, which include; transpalatal, transnasal, transantral and 15 In the recent years repair of CA by endoscopic technique became very popular. Most of our cases are operated by endoscopic technique, powered instruments (microdebrider and drill), this made telescopic technique very practical even for neonates.

underwent surgical repair eventually had successful outcome. The frequency of surgical repair ranged is not far from the reported rate in the international literature.

children, female is more commonly affected than right side in the cases of unilateral CA in this study. This study is having the limitation of retrospective studies. However, it can be used as a baseline for further prospective studies and a larger study groups.

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