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Case Report

Bilateral Choanal Atresia: A Case Report of a Neonate

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Abstract

The objective is to describe a rare case of bilateral Choanal atresia (CA). It is a congenital deformity of posterior nares where both nares are not patent at all or stenosed. While unilateral CA can remain unidentified for years, bilateral CA is typically detectable immediately after birth in neonates who prefer to breathe via their nose until they are four months old. An 18 days old male patient was admitted to the male surgery ward with complaints of respiratory distress and not taking feed for 2 days. The patient has been hospitalized after birth in a railway hospital and referred to a pediatric surgeon and he was diagnosed as a case of bilateral CA. During surgery, posterior nares were perforated, and dilated and stenting of posterior nares was performed with infant feeding tube no.8 with the help of a guide wire. Bilateral CA is a medical emergency that needs to be treated in newborns as early as possible. CT scan of the skull base and paranasal sinus can be helpful as a diagnostic tool in detecting the condition.

Keywords: Choanal atresia, stenting, congenital deformity, infant feeding tube

INTRODUCTION

Choanal atresia (CA), is more likely to develop in children who have persistent oronasal membranes, bilateral CA is a potentially fatal but generally rare defect in neonates. Obliteration or constriction of the posterior nares is the underlying pathology.[1] Breslau originally described choanal atresia (CA) in 1830.[2] Incidence of the disease is 1 in every 5-9000 live births.[3] Moreover, CA can be classified as unilateral, bilateral, or resulting from other craniofacial anomalies. One nostril, generally the right, is more affected in unilateral CA in a 2:1 ratio.[1] The inability of the oro or bucconasal membrane to rupture, the persistence of the foregut buccopharyngeal membrane, and abnormal mesodermal adhesions are some of the explanations put out to explain this problem.[4] Contrarily, due to the high cervical placement of the larynx, bilateral CA is typically detectable immediately after birth in neonates who prefer to breathe via their nose until they are four months old as neonates are obligatory nasal breathers.[5] The ideal surgery would restore a normal nasal channel while being rapid, safe, and without causing any harm to the nearby craniofacial tissues.[6]

Clinical Presentation

Symptoms of bilateral Choanal atresia include:-

Dyspnoea attacks, Paradoxical cyanosis, feeding difficulties, aspiration pneumonitis, and stridor

Diagnosis:-

An infant feeding tube of even no.5/6 cannot be negotiated through the nostril into the nasopharynx, which has historically been used to diagnose choanal atresia.

Using a computed tomography (CT) scan of the skull base and paranasal sinuses, a conclusive diagnosis is made. With medial nasal cavity wall bending and impingement at the level of the anterior side of the pterygoid plates, as well as an expansion of the posterior region of the vomer, a posterior nasal cavity constriction is seen on a CT scan.[7]

Treatment:-

Before undergoing definitive surgical therapy, a temporary remedy, such as an oral airway, McGovern nipple, or intubation, is necessary.[8] Bilateral choanal atresia can be corrected surgically using a variety of techniques, each with its benefits, drawbacks, and recognized risks.[9]

CASE REPORT

An 18 days old male patient was admitted to the male surgery ward under a pediatric surgeon with complaints of respiratory distress and not taking feed for 2 days. History of hospitalization in NICU for 15 days after birth was present. The patient was born with a lower segment cesarian section (LSCS). Hematology and liver biochemical reports were found to be slightly abnormal. Infant feeding tube No.8 was inserted

with the help of a guide wire. Based on history and clinical examination and investigation and failure to negotiate infant feeding tube no.5,6, the final diagnosis of bilateral choanal atresia was made. After diagnosing this case on a clinical basis, the patient has undertaken a surgical procedure under general anesthesia.

DISCUSSION

Bilateral choanal atresia is a medical emergency that needs to be treated right away as newborns are forced to breathe via their noses. The prevalence rate of this rare condition is 1 in every 5-9000 live birth. A quick diagnosis is necessary for the deployment of emergency airway protection measures, such as the McGovern tube, continuous positive airway pressure (CPAP), orotracheal intubation, and tracheotomy, due to the prompt postpartum appearance of bilateral choanal atresia.[10,11] CA either is a constriction or obliteration of the posterior nasal aperture, causing the posterior nasal cavity to be unable to interact with the nasopharynx. CT scan of the skull base and paranasal sinus can help confirm the diagnosis of CA. About 70% of the cases consist of both bony and membranous obstruction and about 30% of the cases consist of only bony obstruction. The patient was 18 days old male who was admitted to the male surgery ward with complaints of respiratory distress and not taking feed for 2 days. The patient was diagnosed with choanal atresia and went under the surgical procedure. The patient received care from a team of health professionals including pediatric surgeons, clinical pharmacists, and nursing staff. After getting proper care from the health care professionals his symptoms got relieved and he has to take medicines as prescribed. His parents were counseled properly to take care of his child and do the suggested medication properly for more improvement.

CONCLUSION

In this report, we discussed a rare case of bilateral CA. Our study reports that the symptoms of the patient got relieved after taking proper medication and the surgical procedure done by a pediatric surgeon. This case highlights the importance of clinical diagnosis in detecting the condition and a rare congenital malformation with early diagnosis and surgical correction to normalize the child free from further complications.

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Conflict Of Interest:

None

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NIL

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