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ANESTHETIC MANAGEMENT OF A CASE OF UNILATERAL CHOANAL ATRESIA POSTED FOR TRANSNASAL ENDOSCOPIC REPAIR

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ABSTRACT Choanalatresia is a congenital upper airway abnormality which can be either unilateral or bilateral with clinical features ranging from recurrent respiratory tract infections, sinusitis to acute airway obstruction. Here we report a case of 10 months female baby, presenting with unilateral choanal atresia, posted for trans-nasal endoscopic repair which is successfully managed under general anesthesia. The purpose is to emphasize on anesthetic concerns, raise awareness on difficulties in securing airway, difficult mask ventilation [1] and monitoring the post operative nasal patency.

KEYWORDS :

INTRODUCTION:

Choanalatresia[2] first described by Johann Roderer, it is the total obstruction of the posterior choana, unilaterally or bilaterally. In bilateral atresia, early surgery is required i.e. within first few weeks after birth, they usually present with cyanosis. In unilateral atresia surgery can be delayed, commonly associated with various congenital anomalies like anal atresia, microcephaly, CHARGE syndrome and micrognathia. Anesthetic management is challenging, the goal here is to secure oral airway. Mask ventilation can be difficult; intubation can be difficult due to micrognathia. Postoperative nasal patency should be assessed and close monitoring of airway obstruction is necessary.

Case Report:

A 10-month-old female baby weighing 7kgs was diagnosed with left-sided choanalatresia at 3months of age , was posted for transnasal Endoscopic Repair. She came with a history of recurrent respiratory tract infections, delayed milestones (corresponding to 5 to 6 months of age), regurgitation and choking spells during feeding. She was on mechanical ventilator support for 10days after an episode of respiratory distress at 3months of age. On examination, baby was irritable, and airway could not be properly assessed. She has noisy breathing with bilateral wheeze on auscultation; nebulization with 3% Normal saline and antibiotics were started. All basic investigations were normal. 2D ECHO revealed a small Patent ductus arteriosus with normal pulmonary artery pressures. Brainstem evoked response audimetry (BERA) was normal and association with CHARGE [3] syndrome was ruled out. Repair was planned under general anesthesia; patient was shifted to operation theatre. All standard monitors – ECG, pulse oximetry, temperature probe and precordial stethoscope were connected, Inj.Atropine 0.2mg/IV given and 2% sevoflurane was started, Inj.Fentanyl 15mcg/IV, Inj.Lignocaine 10mg/IV were given and induced with 15mg/IV Inj. Propofol and 3 to 5 minutes of preoxygenation was done after inserting an oropharyngeal airway. Intubation was done with a 3.5mm, un-cuffed endo tracheal tube after a loading dose of 0.7mg/IV of vecuronium was given. ETCo2 probe was connected and a throat pack was also placed.

Anesthesia was maintained on equimolar mixture of oxygen and nitrous oxide, 1% Sevoflurane and intermittent doses of 0.2mg/IV ,Inj.Vecuronium. Intra-op vitals were monitored and maintained. Inj.paracetamol 100mg/IV was given to support analgesia. After the return of adequate respiratory efforts, neuromuscular blockade was reversed with Inj.Neostigmine 0.5mg/IV and Inj.Atropine 0.2mg/IV. Patient was extubated after thorough oral suctioning and placed in left lateral position during recovery. There was no post-extubation wheeze or stridor. Patient was shifted to paediatric intensive care unit and monitored. Inj.Paracetamol 100 mg/IV used for postoperative analgesia. A stent was placed surgically which was removed on the second postoperative day. A 4 mm un-cuffed endo tracheal tube was modified and used to keep the right nasal passage patent till the Stent was removed and patency of the operated side was confirmed on the third postoperative day.

DISCUSSION:

Choanalatresia is a well-recognized aetiology for congenital nasal airway abnormalitythat could have various clinical presentations ranging from acute airway obstruction to chronic recurrent sinusitis. Our patient was diagnosed with unilateral Choanalatresia but had symptoms that were more common in bilateral Choanal atresia. The intraoparetive goal was to maintain an adequate airway via the oral route. Mask ventilation may prove to be difficult, for which an oropharyngeal airway would be useful. Intubation can be difficult because some patients have micrognathia. Patients

who snore are at a higher risk for airway obstruction after induction. Patients who have received stents[4] should have a patent nasal passage in the immediate post-operative period and close monitoring is required. They should be extubated in a controlled setting with continuous positive airway pressure available to tackle any post extubation airway obstruction.

CONCLUSION:

Choanalatresia can have a varied presentation, good mask ventilation and securing airway is the mainstay of management. Post-operative nasal patency should be assessed and close monitoring for airway obstruction[5] is necessary.

REFERENCES:

1. Walas W, Aleksandrowicz D, Kornacka M, Gaszyński T, Helwich E, Migdał M, Piotrowski A, Siejka G, Szczapa T, Bartkowska-Śniatkowska A, Halaba ZP. The management of unanticipated difficult airways in children of all age groups in anaesthetic practice - the position paper of an expert panel. Scand J Trauma ResuscEmerg Med. 2019 Sep 18;27(1):87. doi: 10.1186/s13049-019-0666-7. PMID: 31533787; PMCID: PMC6751579.
2. Urbančič J, Vozel D, Battelino S, Boršoš I, Bregant L, Glavan M, Iglič Č, Jenko K, Lanišnik B, SokličKošak T. Management of ChoanalAtresia: National Recommendations with a Comprehensive Literature Review. Children (Basel). 2023 Jan 2;10(1):91. doi: 10.3390/children10010091. PMID: 36670642; PMCID: PMC9856561.
3. Siddiqui KM, Asghar MA, Nadeem A. Dealing a Neonate with CHARGE Syndrome:Anaesthesia perspective of perioperative care. Pak J Med Sci. 2017 Nov-Dec;33(6):1534-1537. doi: 10.12669/pjms.336.13558. PMID: 29492094; PMCID: PMC5768860.
4. Alsubaie HM, Almosa WH, Al-Qahtani AS, Margalani O. ChoanalAtresia Repair With Stents and Flaps: A Systematic Review Article. Allergy Rhinol (Providence). 2021 Dec 17;12:21526567211058052. doi: 10.1177/21526567211058052. PMID: 35173993; PMCID: PMC8842470.
5. Dias RG, Giger R, Latzin P, Riva T, Casaulta C, Ulmer F, Jaquet Y, Nisa L. Patterns of airway obstruction of non-acquired origin in children with and without major congenital anomalies. Eur J Pediatr. 2022 Jan;181(1):303-309. doi: 10.1007/s00431-021-04198-6. Epub 2021 Jul 21. PMID: 34291330; PMCID: PMC8760202.