Missed Bilateral Choanal Atresia at birth, Diagnosed in Operating room: Role of Pediatric Anesthesiologist
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INTRODUCTION

Bilateral Choanal Atresia is routinely diagnosed immediately after birth due to routine practice of suctioning of nasal passages with flexible suction catheter. We describe a case report where Choanal Atresia was a missed diagnosis at two different hospitals.

CASE REPORT

Preoperative History:

• 1 day old female child was brought to operating room for DLB for ongoing respiratory distress since birth.
• Born at outside hospital at 40 week gestation via C-section
• Patient noted to have increased work of breathing and suprasternal retractions after birth
• Patient was transported to our hospital with high flow blow by oxygen and airway was secured in NICU with Et tube for ongoing distress
• Child had small neck mass on right supraclavicular region at anterior sternocleidomastoid muscle and it wasn’t considered reason for ongoing presentation of respiratory distress.
• Despite general surgery and ENT service consultation, no health care provider in both hospital had thought Choanal Atresia as plausible cause for the ongoing respiratory distress

Intraoperative Course:

• During DLB with general surgeon patient had general anesthetic with inhaled and intravenous anesthetic and no anatomic reasons found for ongoing respiratory distress
• As decision was made by surgeon to transfer patient back to NICU, attending anesthesiologist suggested that flexible bronchoscopy should be performed to evaluated nasal passage patency to rule out Choanal Atresia
• Due failure to passing both flexible fiberoptic suction catheter and flexible fiberoptic scope probable diagnosis of Choanal Atresia was made.

DEFINITE SURGERY

• ENT surgeon was consulted intraoperatively who used zero degree scope in both nostril to confirm Choanal Atresia
• Then 120 degree scope was used to visualize nasopharynx showing complete bony Choanal Atresia plate bilaterally
• For repair, first 8 F McCrea was sound was used to perforate left nasal atresia and sequential dilation up to 18 F diameter
• Same procedure was done on right side
• Once nostrils were patent back biter was passed from both nostrils sequentially and part of posterior vomer were excised. Nasal mucosal overhangs were also resected with microdebrider.
• Lastly 5.5 cm, 16 F nasal trumpets were placed in both nostrils as stents and sutured to prevent restenosis
• During this part of the surgery Et tube was placed for airway management and standard balanced anesthetic with inhaled sevoflorane and opioid was used.

DISCUSSION

• Choanal Atresia can be part of COLoboma of the eye H heart disease, A atresia of the change, R retarded growth and development, G genital hypoplasia in males E ear cartilage deformity association.
• Typically diagnosis is suspected with inability to confirm patent nasal passages on suction or exacerbation of respiratory distress when child stops crying.
• Unilateral to bilateral atresia ratio is 1.6: 1 with incidence of 1 in 5000-7000 live births., female to male ratio is 2:1
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• Oral airway or McGovern nipple can be used before definitive surgery in case of bilateral atresia.
• It is controversial if bilateral choanal atresia with CHARGE association should be operated.

CONCLUSION

• Differential diagnosis for congenital nasal airway obstruction includes Dermoid cyst, Teratoma, Encephalocele, Dacrocystocele, Gloma and more.
• Whenever possible anesthesiologist should actively think and act in cases involving airway evaluations, particularly when ENT surgeons aren’t present.
• Careful history and physical could have diagnosed this condition even at bedside eliminating risks of several unnecessary procedures.
• Everyone has role in cost effective patient centered care for optimal outcome.