

NCCU CLINICAL GUIDELINES
SECTION: 13

SURGICAL CONDITIONS

Section: 13 Surgical Conditions
Choanal Atresia
Date: August 2010

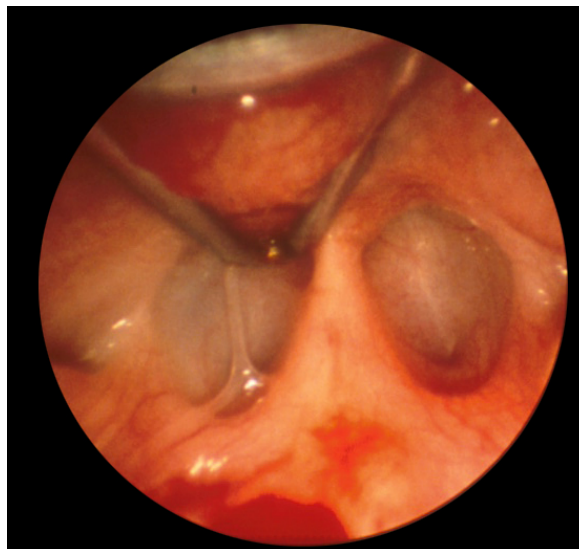
Neonatology Clinical Guidelines
King Edward Memorial/Princess Margaret Hospitals
Perth Western Australia

CHOANAL ATRESIA

Choanal Atresia is a congenital abnormality where there is failure of canalization of the bucconasal membrane. This can be either unilateral or bilateral and is usually due to a combination of bone and soft tissue.

Choanal Atresia occurs in 1:5000 to 1:8000 births. Unilateral atresia is more common and it is more common in females. (1)

CHARGE Syndrome or other congenital abnormalities are present in 50% of patients with bilateral Choanal Atresia. (1)



PRESENTATION

Bilateral Choanal Atresia is a relatively rare anomaly of the upper airway. As neonates are obligatory nasal breathers presentation may be life threatening respiratory distress, retractions and paradoxical cyanotic episodes which are relieved by crying as the infant begins to mouth breath. It is not possible to pass a nasogastric tube through the nares and choanae.

Unilateral choanal atresia does not usually produce severe symptoms.

MANAGEMENT

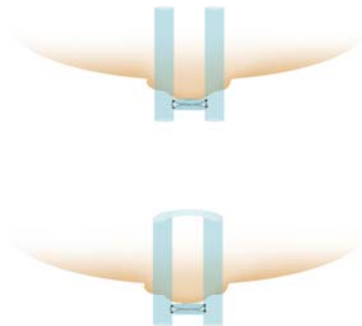
- Oropharyngeal airway.
- Oral intubation in severe cases
- ENT consult
- CT scan
- Investigate for CHARGE syndrome: genetic consult and examination for, coloboma of the eyes, ear anomalies, hearing screening, genital hypoplasia, karyotype and CDH7 mutation studies, genetic consult, renal ultrasound.
- Surgery, either transnasal or transpalatal to remove the bone and soft tissue.

PRE OPERATIVE

- Nurse prone
- Secure Guedel airway using brown tape with central hole cut to diameter of airway.
- Suction airway 2 to 4 hourly as required.
- Remove Guedel airway once per shift and replace with new airway (disposable, single use)
- Orogastric tube feed only if on enteral feeds, usually NBM pre op with full IV fluids.

SURGERY

Stents are positioned through the new choanal openings using ET tubes. The tube size will depend on the size of the created opening. The ET tube is cut and inserted via the mouth to stent the choana. A smaller piece of tube is sutured across the front to prevent the tube sliding into the nose.

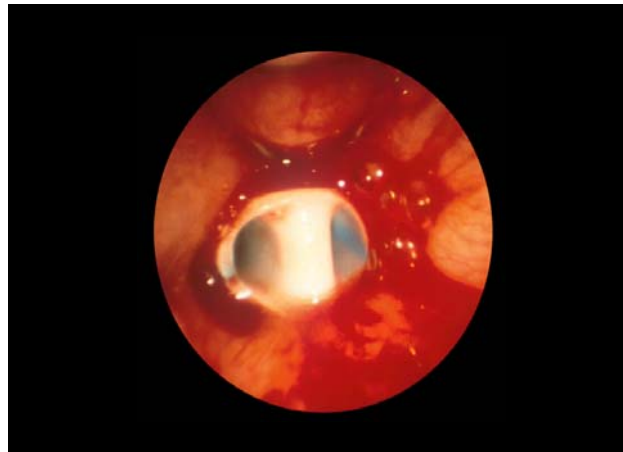


POST OP MANAGEMENT OF THE STENTS

- Stents require 1 to 2 hourly suction for the first 48 hours to maintain patency, then pre feed and prn. The size of the suction catheter used will depend on the size of the stent.
- Normal saline is instilled into each stent prior to suction using a blunt cannula in 0.1ml increments. The suction catheter should then be inserted 6cm or as stated by the ENT surgeon, check the post op notes. A tape measure cut to the correct length should be taped

to the warmer or cot for visible confirmation of catheter length. Gentle suction with size 6 suction catheter around the stents should also be applied.

- Stents are normally left in situ for 6 weeks then removed by the surgeon and patency observed via endoscope.
- Suck feeds can commence when the baby is stable and able to tolerate. OGT feeds are given otherwise.
- Babies most often stay inpatient during the 6 weeks.
- **During hospitalisation the infant requires continuous saturation monitoring.**



Posterior aspect of nasal stent

DISCHARGE PLANNING

Home management is often difficult due to stent blockage.

- Parent education including signs of obstruction and suctioning of stents and infant CPR
- Home suction unit (hired through the PMH appliance centre)
- Supply of suction catheters, tubing, saline and syringes and referral to PMH home equipment Nurse for on going supply.
- Corometrics apnoea monitoring
- Home visiting follow up (HiTH or GP and community nurse)

FOLLOW UP

- ENT review. Revision surgery to dilate the choana is often required.

REFERENCES

1. Ramsden, J.D. and Campisi, P. Choanal Atresia and Choanal Stenosis. *Otolaryngol Clin N Am* 42(2009) 339-352.
2. Personal Communication: Mr Shyan Vijayasekaran FRACS. Otolaryngologist Head and Neck Surgeon. Clinical Associate Professor UWA