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Der Pharmacia Lettre, 2014, 6 (2):74-76  
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## A case report of bilateral abductor paralysis and its management by Tran's oral endoscopic cordectomy, arytenoidectomy

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### ABSTRACT

Paralysis of abductors of both the vocal cords causes the vocal cords to lie in the midline or paramedian position, this compromises the airway and causes respiratory distress which sometimes necessitating tracheostomy[1-4]. The treatment of bilateral immobile vocal cords(BAP) is a balance between phonation, airway and swallowing. Various techniques of endoscopic approach for the treatment of bilateral vocal fold immobility have been proposed and have been modified by various surgeons[5,6]. Trans oral endoscopic arytenoidectomy has become the most common method for its management[7-10]. Though Co2 Laser[11,12] is most appropriate tool for cordectomy for better haemostasis and minimal tissue handling, we described the procedure of posterior cordectomy with arytenoidectomy using the electrocautery due to lack of Laser in our institution.

**Key words:** Bilateral abductor paralysis, Cordectomy, Arytenoidectomy Case report

### INTRODUCTION

Here are two cases reported to department of ENT Guntur Medical college, Guntur, both are female pts 30yrs,35yrs c/o of noisy breathing for the past 5-6 yrs, they developed noisy breathing during inspiration, and respiratory distress while with laborious work, and increases during the episodes of cough and cold. The voice are absolutely normal, no H/o trauma, surgery, fever, convulsions,. on general examination, vitals are stable, no cyanosis, or clubbing, breathing is noisy, inspiratory stridor was present air entry is equal on both sides cvs, cns were within normal limits ENT examination showed no abnormalities., with the 70 degree sinoscopy and fibre optic flexible bronchoscopy, bilateral vocal cords are in paramedian position, CT scan showed the vocal cords are in persistently adductor position with no evidence of sub glottis stenosis.

### Investigations

X-ray neck, barium swallow, flexible esophagoscopy, Echo, ECG, CT neck and chest- done – Normal, blood investigations – blood glucose, serum calcium, magnesium, done – normal.

Hence a diagnosis of Idiopathic Bilateral Abductor Paralysis was made.

### Operative technique

Arytenoidectomy, with posterior cordectomy

Preoperatively for both the cases tracheostomy done. anaesthesia was given after connecting the pts tracheostomy tube portex to the boyles apparatus, kleinsausser suspension laryngoscope with in built provision for Hopkins 70 degree tele scope is used for complete exposure of glottis especially of posterior commissure. The mobility of cricoarytenoid joint is checked with a probe.

The surgery starts with the horizontal incision on the free edge of the posterior portion of the true vocal cord just anterior vocal process of the arytenoid cartilage., using laparoscopic ovarian cystic puncture needle with the help of

martin electro coagulation diathermy monopolar power used to remove the 3/4 of posterior portion of the vocal cord is excised care is taken not to damage the ventricle as it causes the irreversible voice damage. And with the help of keyland grasping rotating insulated forceps vocal process is grasped cutting is continued posteriorly, and medially to include the laryngeal slope of the body of the arytenoid cartilage is excised. The portion excised includes vocal process, posterior third of the true vocal cord, medial part of the body of the arytenoids. Ideally this procedure creates up to 6-7mm of transverse opening in the posterior glottis, adequate for the most of the patients without undue risk of prolonged aspiration. This surgical procedure lasts for 25-30 mts. After the resection of the arytenoids the surgical site is covered surgical cottoniod with 2ml of mitomycin-c (1 mg/ml) for 2 min to prevent fibrosis. The bed is then covered with fibrin glue to prevent the formation of granuloma.

**Post operative management**

Postoperatively the pts were kept in ICU for 24 hrs for observation. The patient is observed for respiratory difficulties due to possible surgical oedema. The patients received postoperative therapy including broad spectrum antibiotics for 7 days, nebulisation with steroids and mucolytic agent. Antireflux treatment is given for 12 weeks. Patients do have some dysphonia postoperatively but usually, useful phonation may be achieved in most cases with formation of neocord.

Pt showed transient aspiration of both liquids and semisolids. Though aspiration for semisolids improves in first 24 - 48 hrs the same for liquids may continue for another day or two. However none of these cases show prolonged aspiration. Besides aspiration, the possible known complications include granuloma formation, posterior glottal webbing, and insufficient airway requiring revision surgery.



Preop vocal cords –showing in the paramedian position      Using pcod puncture needle cauterizing the voc



Excision of the arytenoid



Raw area with patency of glottis



2 weeks after the surgery



4 weeks after the surgery



### DISCUSSION

1. In all pts of bilateral abductor paralysis of vocal cords airway management takes precedence over voice. Air way should be secured immediately by performing tracheostomy.
2. Efforts should be made to decannulate the pt as early as possible.
3. Posterior cordotomy can be performed in patient with mild-moderate compromise of the airway. This procedure is more conservative, and has very little risk of aspiration.

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