

## CASE REPORT

# LASER POSTERIOR CORDECTOMY FOR BILATERAL ABDUCTOR VOCAL CORD PALSY : A CASE REPORT

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**Bilateral abductor vocal cord palsy is comparatively a rare vocal cord lesion, especially in a patient with no history of neck mass, previous surgery or trauma. Many patients are not stridulous. A patient presenting with stridor may need emergency airway management before the other treatment is commenced. We report a case of bilateral abductor palsy which required an emergency tracheostomy and subsequently a laser posterior cordectomy.**

*Key words : Bilateral abductor palsy, posterior cordectomy, laser*

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### Case Summary

A 63 year old Malay female presented with history of increasing stridor for the past six months. Initially she described the noisy breathing only occurred during sleep, started about one year ago. Occasionally, her breathing stopped during sleep. She also complained of reduced effort tolerance and sometimes wheezing.

There was no history of loss of weight or reduced appetite. No history of dysphagia, neck mass, previous surgery or trauma to the neck region documented.

On examination, she was tachypnoeic but not cyanosed. There was a biphasic stridor. No neck mass was palpable. On 70° laryngoscopy, both vocal cords were in median position, leaving only a small gap at the posterior commissure. There was no other mass seen.

Investigations were unremarkable. Chest x-ray was normal and computed tomography (CT scan) revealed a normal brain study and a small left solitary thyroid nodule.

In view of the worsening stridor, she was subjected to emergency tracheostomy under local anaesthesia. Few days later, laser posterior cordectomy was performed to the left vocal cord.

The patient was doing well post-operatively and the tracheostomy was decannulated few weeks after the procedure. She was able to talk with

reasonable voice and no episodes of aspiration documented.

### Discussion

A paralyzed cord, especially the bilateral vocal cords involvement will compromise the airway. It also increases the risk of aspiration pneumonia. Unilateral palsy usually get compensated from the opposite cord, where as the bilateral non-functioning cords, depending on the final site they were rested will determine whether the remaining airway is too wide (such as in uncompensated adductor palsy) that lead to aspiration or too narrow (abductor palsy) that will compromise the respiratory tract.

Bilateral vocal cord palsy can present as acute emergency condition to otolaryngologist. Although majority of the bilateral abductor palsy patients were non-stridorous, a superimposed upper respiratory tract infection can lead to a life-threatening condition. An oedema to the paralyzed cord will very much compromise the airway. Our patient was having this noisy breathing for the past six months, and she can live with the symptom quite comfortably except a slight reduced in effort tolerance. The worsening of symptom was only noted few days prior to admission.

As there was no room for an oral intubation, tracheostomy needs to be performed. In some centers

where there was no laser equipment, permanent tracheostomy is the best treatment that can be offered. However, the patient with permanent tracheostomy tube needs to be well educated on how to manage the tube at home which includes regular cleaning, humidification, tube change, suction and others. The other disadvantage is the patient have to take extra effort to enable him to talk (to occlude the tube externally or use a speaking valve).

Considering all this factors, and with the laser equipment and well trained expertise available, a laser assisted posterior cordectomy was performed. The tracheostomy tube was first changed to the laser-resistance metal tube.

The posterior cordectomy procedure was first proposed by Kashima and Dennis in 1989. With time, this procedure has become the treatment of choice because complications are rare, effective and easily repeatable in case of recurrence (1). In this procedure, the posterior third of a vocal cord, in this patient, the left side was ablated with 20 watt Sharplan laser. By using the micro manipulator, the targeted part was ablated with carbon dioxide laser until a desired size of airway created. Care should be taken to avoid over ablation that will lead to a wide space inducing aspiration. That was also the reason why some surgeon advocated doing only a unilateral cordectomy in each sitting, and not a simultaneous bilateral procedure although some centers proved it to be safe. For example, in a series of 22 bilateral vocal cord palsy patients who were treated with simultaneous bilateral posterior cordectomy in Egypt (Khlifa, 2005), the success rate was up to 92 % with good airway and voice quality. Problems related to deglutition, aspiration, or granuloma formation were not reported (2).

In a well trained hand, the minimal risk of unnecessary burn or ablation to other undesired part can be avoided. The advantage of this laser procedure is that it will not bleed and thus reduce the risk of blood aspiration into the lung, intra or post operatively. It is because the mechanism of this destructive procedure is by tissue ablation unlike cutting with cold instruments. The disadvantages were rarely observed and reported. When compared with other techniques, the advantages offered by the posterior cordectomy included rapidity and simplicity in concept, reliability of outcome, short hospitalization, low risk of complications, and the possibility for revision when necessary (3).

With a course of steroid cover post-operatively, the patient was managed well in the ORL general ward. She was decannulated from

tracheostomy the next week. The procedure can be repeated to the opposite vocal cord if the space created was found to be inadequate.

Although it is a rare condition, the otolaryngologists in centers equipped with laser facilities should be able to offer the best treatment to the patient. Laser posterior cordectomy has been widely performed in Western countries. This case demonstrates to us the ability to perform such procedures in local setting, Hospital Universiti Sains Malaysia.

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