

Case Report

Bilateral vocal cord paresis as a rare complication of endoscopic retrograde cholangiopancreatography: a case report for the attention of endoscopist

Vinota Paniselvam*, Ahmad Nordin

Department of Otorhinolaryngology, Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia

Received: 17 June 2019

Accepted: 05 September 2019

***Correspondence:**

Dr. Vinota Paniselvam,

E-mail: vinota23@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Bilateral vocal cord paresis is an extremely rare complication of endoscopic retrograde cholangiopancreatography (ERCP) with no case reported prior to this. We present a case of a 38 years old gentleman who suddenly developed aphonia and aspiration symptoms following ERCP. A rigid laryngoscopy done showed adductor paresis of bilateral vocal cords causing his symptoms, which was presumed to be a complication of the ERCP. He was treated conservatively and clinically improved with time. The present case report emphasizes that bilateral vocal cord paresis could occur as a complication of ERCP.

Keywords: ERCP, Complication, Vocal cord, Paralysis

INTRODUCTION

ERCP is a minimally invasive procedure that is used to diagnose and treat diseases of the pancreatobiliary tree. As this procedure is complex and requires skill, it carries some risks of complications such as haemorrhage, pancreatitis and perforation. In our knowledge, there was no case reported for bilateral vocal cord paresis as a complication of ERCP.¹

Patients with vocal cord paralysis usually present with symptoms such as hoarseness, dysphonia, dyspnea and aspiration and can reduce a person's quality of life.^{2,3} Vocal cord paralysis can be caused by lesions or absence function at the nucleus ambiguus, supranuclear tracts, main trunk of the vagus nerve or its distal branch, the recurrent laryngeal nerve (RLN).^{3,4} The most common causes include malignant tumours, iatrogenic injury during surgery involving the neck, thyroid gland, or chest, and various neurologic diseases.^{2,4} Mechanical fixation can also cause failure of the movement of the vocal cords. Toutouchi et al study between July 2010 till

July 2011 demonstrated tumours and idiopathic as the main cause of vocal cord paralysis followed by surgeries.² The aim of this study is to present a case of patient who developed bilateral vocal cord paresis following ERCP as such case was not reported before in any literature.

CASE REPORT

A 38 year old Asian man was referred to otorhinolaryngology department for loss of voice immediately post ERCP. He also has aspiration symptoms upon taking fluids. Otherwise, he did not have noisy breathing and obstructive symptoms. ERCP was done under sedation by general surgery specialist as patient was diagnosed with acute pancreatitis and the procedure was uneventful. Prior to ERCP, he had no complaints of hoarseness of voice and was taking orally well. He has underlying well controlled bronchial asthma. On examination, he was aphonia but was able to count 1 to 10 in one breaths. He also had bovine cough. A rigid 70° laryngoscopy was done and showed bilateral vocal

cord adductor paralysis with phonation gap. He failed bedside swallowing test. Thus, was started on nasogastric tube feeding. He was reviewed together with speech therapist and was planned for observation.



Figure 1: Image of rigid 70° laryngoscopy performed post- ERCP procedure demonstrating bilateral adductor vocal cord paralysis.

Upon reassessment 2 weeks later in clinic, repeated laryngoscopy showed minimal improvement in the mobility of the vocal cords bilaterally with mild improvement in the phonation gap. He was also seen by speech therapist and was taught on vocal technique and manoeuvres on swallowing. Following 2 months review, he was free from symptoms and laryngoscopy done showed normal mobility of bilateral vocal cords with no phonation gap.

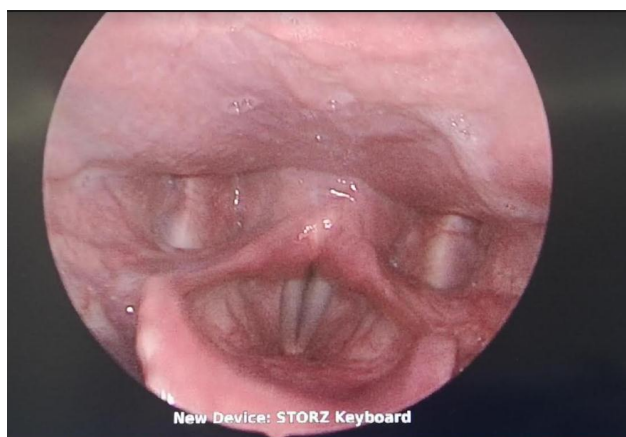


Figure 2: Image of rigid 70° laryngoscopy performed 2 months later demonstrating resolved bilateral adductor vocal cord paralysis.

DISCUSSION

Vocal cord paralysis is a symptom that occurs due to laryngeal nerve paralysis mostly recurrent laryngeal nerve. The recurrent laryngeal nerve directly supplies posterior cricoarytenoid muscle which helps in cord abduction.³ Most of laryngeal nerve paralysis is due to surgical procedures, anaesthesia complications or

neurologic disorders. Patients with vocal cord paralysis usually present with changes in voice, aspiration and respiratory problems.² In this case, patient presented with aphonia and aspiration symptoms following ERCP procedure which explains that patient had vocal cord paralysis.

There are numerous studies done that show that there are many causes of vocal cord paralysis. One of the few major causes of vocal cord paralysis are surgery, malignancy, idiopathic and trauma.²⁻⁴ There was no case reported prior to this regarding vocal cord paralysis secondary to ERCP.

In this case, laryngoscopy examination of the patient showed transient bilateral vocal cord paralysis that suggestive of neuropraxia of recurrent laryngeal nerve. Paralysis of vocal cord in this case likely occurred due to injury of recurrent laryngeal nerve at the tracheoesophageal junction during ERCP procedure. Tracheoesophageal groove is a sulcus where the recurrent laryngeal nerve ascends where it is formed by trachea anteriorly and oesophagus posteriorly. The same injury mechanism has been reported in cases of oesophageal stricture dilatation.³ Literature shows that patients with transient vocal cord paralysis may show recovery as early as 3 days to 3 months.⁵ This patient in this case was taught proper vocal technique and swallowing manoeuvres with aid of speech therapist. He showed recovery in two months duration with resolved of aspiration symptoms and hoarseness of voice. Laryngoscopy done also showed resolved vocal cord paralysis.

CONCLUSION

This case report emphasizes that recurrent laryngeal nerve palsy can occur as a complication of ERCP. Endoscopist needs to be vigilant that such complication could occur and need to be explained to patients prior to ERCP procedure as it carries risk of aphonia, aspiration and even respiratory distress.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Hauser G, Milosevic M, Zelic M, Stimac D. Sudden death after endoscopic retrograde cholangiopancreatography (ERCP)-case report and literature review. *Med (Baltimore)*. 2014;93(27):e235.
2. Toutounchi SJS, Eydi M, Golzari SEJ, Ghaffari MR, Parvizian N. Vocal cord paralysis and its etiologies: a prospective study. *J Cardiovascular Thoracic Res*. 2014;6(1):47-50.
3. Wong E, Do TQP, Stewart TE. Unilateral vocal cord paralysis following high oesophageal stricture

dilatation: case report and review of the literature. *J Otolaryngol ENT Res.* 2017;9(3):00287.

4. Li Y, Garrett G, Zeale D. Current Treatment Options for Bilateral Vocal Fold Paralysis: A State-of-the-Art Review. *Clin Exp Otorhinolaryngol.* 2017;10(3):203-12.
5. Misron K, Balasubramanian A, Mohamad I, Hassan NF. Bilateral vocal cord palsy post thyroidectomy:

lessons learnt. *BMJ Case Reports.* 2014: bcr2013201033.

Cite this article as: Paniselvam V, Nordin A. Bilateral vocal cord paresis as a rare complication of endoscopic retrograde cholangiopancreatography: a case report for the attention of endoscopist. *Int J Otorhinolaryngol Head Neck Surg* 2019;5:1691-3.