

Difficult Intubation due to Chronic Hiccup: A Case Report

Erman Aytac¹, Ziya Salihoglu², Ahmet Demirkaya³, Bilgi Baca¹, Kamil Kaynak³,
Tayfun Karahasanoglu¹, Ismail Hakki Hamzaoglu¹

Istanbul University, Cerrahpasa Medical Faculty, ¹Department of General Surgery,

²Department of Anaesthesiology, ³Department of Thoracic Surgery, Istanbul

ÖZET

Kronik hıçkırığa bağlı zor entübasyon: Olgu sunumu

Hıçkırık, diaframmanın spazmı olarak tarif edilir, glottis hızlı bir şekilde kapanıp ani bir inhalasyona sebep olur ve ses oluşturur. Hıçkırık; cerrahi, endoskopi, manyetik rezonans görüntüleme gibi birçok işlemin yapılmasını zorlaştırır. Literatürde hıçkırık anestezi nedeniyle gelişen bir durum olarak değerlendirilmekte ve birçok çalışma anestezi nedenli hıçkırık üzerine yoğunlaşmaktadır. Zor entübasyon nedenleri arasında, kronik hıçkırık nedeniyle ile ilgili literatür verisi sınırlıdır. Bu makalede kronik hıçkırığa bağlı zor entübe edilen bir olgu sunulmaktadır. Olguda kronik hıçkırığa eşlik eden grade 3 özofajit ve hiatal fıtık bulunmaktaydı. Hastaya laparoskopik Nissen fundoplikasyonu ve torakoskopik frenik sinir ablasyonu yapıldı. Hasta ameliyat sırasında hıçkırmaya devam etti ancak ameliyat sonrası dönemde hıçkırığın şiddeti ve sıklığı azaldı.

Anahtar kelimeler: Kronik hıçkırık, zor entübasyon, laparoskopi, torakoskopi

ABSTRACT

Difficult intubation due to chronic hiccup: a case report

Hiccup is described as a spasm of the diaphragm that causes a sudden inhalation followed by rapid closure of the glottis that produces a sound. Hiccup cause difficulties for medical procedures such as surgery, endoscopy or magnetic resonance imaging. In the literature, hiccup is presented as a situation that is seen due to anesthesia and most studies describe to manage anesthesia-related hiccup. The data about difficult intubation because of hiccup is lacking. Hereby, we present a case of difficult intubation due to chronic hiccup. The patient had a chronic hiccup associated with grade 3 esophagitis and hiatal hernia. Laparoscopic Nissen fundoplication and thoracoscopic phrenic nerve ablation was performed. Our patient was hiccupping during surgery. However, the severity and the frequency of the hiccup attacks were decreased after surgery.

Key words: Chronic hiccup, difficult intubation, laparoscopy, thoracoscopy

Bakırköy Tıp Dergisi 2011;7:39-40

INTRODUCTION

Hiccup is described as a spasm of the diaphragm that causes a sudden inhalation followed by rapid closure of the glottis that produces a sound (1). The pathophysiology of hiccup has been poorly understood. Hiccup may cause difficulties during many interventions such as surgery, endoscopy and magnetic resonance imaging (MRI) (2).

The data about difficult intubation because of hiccup is lacking. Hereby, we present a case of difficult intubation due to chronic hiccup which was started unknown reason.

CASE REPORT

27-year old man admitted to our clinic with complaints of chronic refractory hiccup, abdominal pain and chronic anemia for two years. His psychiatric and neurologic examinations were normal. Cranial and neck MRI, thoracoabdominal computed tomography (CT), abdominal ultrasonography (USG), esophageal biphasic digital barium swallow, mesenteric angiography, abdominal doppler USG and colonoscopy were normal. First endoscopic examination revealed cardioesophageal junction relaxation and gastritis. The urease test was positive. Helicobacter pylori was eradicated with appropriate medical therapy. A control gastroscopy was performed after the medical treatment. Grade 3 reflux esophagitis and sliding hiatal hernia were diagnosed. Gastroesophageal reflux was thought to be a cause of hiccup. Surgery was chosen for the therapy. Midazolam 0.03 mg/kg intravenously (IV) was administered for premedication. Anaesthesia was

Yazışma adresi / Address reprint requests to: Erman Aytac MD
I.U. Cerrahpasa Tıp Fakültesi, Genel Cerrahi Anabilim Dalı, Cerrahpasa,
İstanbul, Turkey

Telefon / Phone: +90-212-414-3000/21385

Elektronik posta adresi / E-mail address: eaytacr@yahoo.com

Geliş tarihi / Date of receipt: 28 Eylül 2009 / September 28, 2009

Kabul tarihi / Date of acceptance: 23 Kasım 2009 / November 23, 2009

induced with propofol 2mg/kg, fentanyl 2 µg/kg. After neuromuscular blockage (atracurium 0.5 mg/kg IV), the patient started to hiccup ceaselessly. Intubation was performed with laryngeal mask (LMA)-Fastrach and spiral tube. The patient was continuously hiccupping during the operation. Laparoscopic Nissen fundoplication and thoroscopic phrenic nerve ablation was performed. The postoperative period was uneventful. His abdominal complaints and anemia were recovered. The severity and the frequency of the hiccup attacks were decreased after surgery.

DISCUSSION

Hiccup affects life quality, career and family life when becomes chronic and permanent. An American man named Charles Osborne had the hiccups for 68 years, from 1922 to 1990, and was entered in the Guinness World Records as the man with the Longest Attack of Hiccups (3). Our patient complains of chronic refractory hiccup that continues all day for 2 years and resistant to medical treatment. He gave up his work and his social life was broken down because of hiccup. Additionally, our patient had grade 3 esophagitis and hiatal hernia. Hiatal hernia is one of the causes of hiccup. Ablation of phrenic nerve has been suggested as a treatment alternative (4). It has been suggested that idiopathic chronic hiccup often occurs as a result of gastroesophageal abnormalities and can not be healed if the gastroesophageal disease's left untreated (5).

In the literature, hiccup is presented as a situation that is seen due to anesthesia and most studies describe

to manage anaesthesia-related hiccup. Deep anesthesia, neuromuscular blockers, local anesthetic application to vagal nerve, positive end-expiratory pressure (PEEP), pharmacologic approaches (methylphenidate, ketamine chlorpromazine, metoclopramide, haloperidol, amitriptyline, carbamazepine, diphenylhydantoin, and valproic acid), nasogastric tube application are suggested as treatment options for hiccup (2, 6-8). Beneficial effects of acupuncture were reported in a case (9). However, there is no consensus about the procedure that would be used for general anesthesia for hiccupping patients.

LMA Fastrach named intubation with LMA; this instrument has a pitch angle mimicking human neck anatomy and a metallic holder. This instrument leads intubation for difficult cases. Intubation tube passes inside of LMA Fastrach. Cuff of LMA Fastrach is produced long enough leading for taking off (10). LMA is suggested as a cause of hiccup but in our case it eased the intubation process. It has been reported that insertion of the laryngeal mask airway and inflation of its cuff could also inhibit hiccups in the fentanyl and propofol induced anesthesia (11). In our case, chronic hiccup was neither stopped by neuromuscular drugs, hypnotic and analgesic agents; although, it has been reported that the anesthetics decrease or attenuate hiccup attacks (2).

We planned a reliable treatment strategy according to the objective findings during the preoperative period for the symptom that is not understood completely. The severity and the frequency of the hiccup attacks decreased but not diminished after surgery. In future, the exact treatment strategies will be developed after the identification of the pathologies that cause hiccup.

REFERENCES

1. Kahrilas PJ, Shi G. Why do we hiccup? *Gut* 1997; 41: 712-713.
2. Kranke P, Eberhart LH, Morin AM, Cracknell J, Greim CA, Roewer N. Treatment of hiccup during general anaesthesia or sedation: a qualitative systematic review. *Eur J Anaesthesiol* 2003; 20: 239-244.
3. Survivor of 68-Year Hiccup Spell Dies. *Omaha World - Herald*, 05 May 1991, Sunrise Edition: 2B.
4. Johnson DL. Intractable hiccups: treatment by microvascular decompression of the vagus nerve. *Case Report. J Neurosurg* 1993; 78: 813-816.
5. Guelaud C, Similowski T, Bizec JL, Cabane J, Whitelaw WA, Derenne JP. Baclofen therapy for chronic hiccup. *Eur Respir J* 1995; 8:235-237.
6. Friedgood CE, Ripstein CB. Chlorpromazine (thorazine) in the treatment of intractable hiccups. *J Am Med Assoc* 1955; 157: 309-310.
7. Madanagopalan N. Metoclopramide in hiccup. *Curr Med Res Opin.* 1975; 3: 371-374.
8. Parvin R, Milo R, Klein C, Arlazoroff A. Amitriptyline for intractable hiccup. *Am J Gastroenterol* 1988; 63: 1007-1008.
9. Dietzel J, Grundling M, Pavlovic D, Usichenko TI. Acupuncture for persistent postoperative hiccup. *Anaesthesia* 2008; 63: 1021-1022.
10. Liu EH, Goy RW, Lim Y, Chen FG. Success of tracheal intubation with intubating laryngeal mask airways: a randomized trial of the LMA Fastrach and LMA C Trach. *Anesthesiology* 2008; 108: 621-626.
11. Baraka A. Inhibition of hiccups by the laryngeal mask airway. *Anaesthesia* 2004; 59: 926.