Difficult Intubation due to Chronic Hiccup: A Case Report

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ABSTRACT

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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 during many interventions such as surgery, endoscopy and magnetic resonance imaging (MRI). 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 thorascopic 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

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
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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 induced with propofol 2mg/kg, fentanyl 2 µg/kg. After neuromuscular blockade (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 thoracoscopic 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 cannot 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 anesthesia-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 hiccuping patients.

LMA Fastrach named intubation with LMA; this instrument has a pitch angle mimicling 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 has been 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