

# Rare cause of chronic hiccups

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## OPEN ACCESS

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## Abstract

Chronic hiccups is a rare symptom that can lead to significant disability and often reveals an underlying disease. The following is the case of a 68-year-old man who was admitted due to hiccups that had lasted more than 3 months associated with epigastric pain, postprandial vomiting, and weight loss. He had undergone surgery twice due to gastroesophageal reflux disease and hiatal hernia. During the first procedure, a fundoplication was performed, and then, he underwent a reoperation consisting of diaphragmatic pillars closure and laparoscopic Nissen. The symptoms were caused by a hiatal obstruction due to the kinking of the previous fundoplication and were resolved by repositioning the hiatus to anatomical parameters and dismantling the previous Nissen.

## Keywords

Hiccups, Fundoplication, Hiatal hernia.

## INTRODUCTION

Hiccups are an inconvenient symptom characterized by myoclonic, rhythmic, involuntary and repetitive contractions of the diaphragm and intercostal muscles. This spasmodic movement is a common physiological phenomenon that can occur at any age and is frequently overlooked, but it can become a worrying nuisance in some cases (1).

This condition is considered chronic if it lasts more than 48 hours (2). In such cases, hiccups may be the symptom of an underlying disease or complication and are usually

refractory to treatment. Hiccups are considered intractable when they last more than one month and persist after 48 hours of treatment (3).

The progression of chronic hiccups is described as a long term of contractions of varying length, often with a frequency of several days or weeks in a month, resulting in severe disability. Chronic hiccups cases are the only form of hiccups that needs medical care since it usually reveals a severe underlying condition. As a consequence, the search for chronic hiccups cause should be prioritized in order to start an etiological treatment.

## CLINICAL CASE

A 68-year-old man visited the emergency room in October 2018 after experiencing sporadic hiccups every day for more than three months, which worsened with food intake and made rest difficult. During this period, he had experienced epigastralgia and postprandial nausea and vomiting, and a weight loss of at least 4 kilograms. His primary care physician prescribed symptomatic treatment with Largactil® with little improvement.

The patient was being followed up by a pulmonologist due to bronchial asthma, and was being treated with montelukast, fluticasone, salmeterol and acridinium bromide. Due to gastroesophageal reflux disease and hiatal hernia, he had undergone 2 surgeries: first a fundoplication performed in April 2005, and a reoperation consisting of pillar closure and laparoscopic re-Nissen carried out in October 2011.

During the physical examination, the patient's thinness was noticeable, and he did not seem to be in any pain. Leukocytosis, thrombocytosis, iron deficiency anemia, and hypoalbuminemia were reported in the emergency laboratory tests analysis. Due to the suspicion of a neoplastic disease, an abdominal computed axial tomography (CAT) scan was performed, in which parietal thickening and contrast uptake at the gastroesophageal junction were observed. For this reason, he was admitted to the hospital to complete the study.

Even though the patient had fasted for more than 10 hours, excess of fluid in the esophagus was observed in a gastroscopy. Also, there was a mucosa with a whitish cobblestone pattern in the center and distal third. Since esophageal candidiasis was suspected, biopsies and a cytology were performed, which allow confirming it. The examination also revealed a 3-4 cm hiatal hernia with a fundoplication that hindered the passing of the endoscope, but it did not prevent it from passing (**Figure 1**). In addition, tumor markers were tested, yielding negative results.

He was administered intravenous fluconazole for 14 days. Clinical improvement was observed after the first doses, but then symptoms worsened. For this reason, he underwent surgery to treat the hiatal obstruction due to the kinking of the previous fundoplication (**Figure 2**). A hiatal repositioning to anatomical parameters was performed and the previous Nissen fundoplication was disassembled.

The patient's recovery was very satisfactory and the hiccups and nausea disappeared. At subsequent examinations, the patient was still asymptomatic and had gained weight.



**Figure 1.** Retroverted endoscopic images of the fundoplication performed on admission.



**Figure 2.** CT scan showing the kinking of the fundoplication.

## DISCUSSION

Although gastroesophageal reflux is a condition that affects up to 32% of the population, the occurrence of chronic hiccups as a symptom is far less common (4).

The etiology of hiccups is various and diverse (5). Few studies describe the incidence of possible etiological causes of hiccups, and they are not recent (6, 7). Most acute episodes are caused by gastric distension, such as consuming a large meal or drinking carbonated beverages.

Gastroesophageal disorders are the most common cause of chronic hiccups, being the most frequent reflux esophagitis. Hiccups of thoracic, intestinal, cerebral, and even psychic origin are the second most frequent cause of chronic hiccups, though to a much lesser degree.

In patients with comorbidities, there may be an underlying systemic, infectious, or inflammatory cause affecting the central nervous system (CNS), the vagus nerve, the phrenic nerves, or their branches. It is important to keep in mind that chronic hiccups may be caused by a severe illness, such as a neoplasm or multiple sclerosis. Chronic hiccups are slightly more common in men, mainly if the cause originates in the CNS (8).

As it happened in the case reported here, the resolution of this symptom requires the etiological treatment of its cause (9). Our patient had a fundoplication that had moved distally, as well as a recurrent hiatal hernia. The surgical intervention performed to repair the hiatal hernia caused the resolution of the patient's symptoms. After

an exhaustive literature search, we did not find published cases of patients with chronic hiccups as a complication of a fundoplication.

## CONCLUSIONS

Chronic hiccups have a wide range of causes, and its occurrence as a complication of fundoplication is rare in patients undergoing surgery to repair a hiatal hernia. The disassembly of the fundoplication is the definitive solution for achieving the resolution of chronic hiccups of this etiology.

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## Conflict of interest

None declared by the authors.

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