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Persistent Hiccups due to Gastro Esophageal Reflux Disease (GERD).

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ABSTRACT

Hiccup is a spasmodic, involuntary contraction of the inspiratory muscles, associated with delayed, abrupt glottic closure, causing a peculiar sound. There are numerous causes of hiccup, including diseases of the gastrointestinal tract. Hiccup is reported to represent an atypical manifestation of the gastroesophageal reflux disease (GERD). We report two patients diagnosed GERD presented to us with persistent hiccups as an unusual presenting complaint. Endoscopic examinations showed esophagitis, two case of Los Angeles class grade B and A respectively, whose hiccups were improved by proton pump inhibitors (PPI). Hiccup is atypical symptom of GERD. If hiccup is due to GERD, then it may be improved with proton pump inhibitor therapy.

Keywords: Gastroesophageal Reflux Disease,Hiccup, Esophagitis, Proton Pump Inhibitor.

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INTRODUCTION

Hiccup (singultus), is a spasmodic, involuntary contraction of the inspiratory muscles, associated with delayed, abrupt glottic closure, causing a peculiar sound [1]. Hiccup is believed to be caused mainly by irritation of either the phrenic or vagus nerves anywhere along their course. Central nervous system diseases, toxins, drugs and metabolic abnormalities may also lead to hiccup [2]. Hiccup is reported to represent an atypical manifestation of the gastroesophageal reflux disease (GERD) [3]. We report two cases of singultus.

Case 1

A 55 years gentleman who is an alcoholic was admitted to our department because of intermittent hiccups for four years. He reported retrosternal burning and regurgitation for one year. He was using non-steroidal anti-inflammatory drugs for low back ache. On admission, his vitals were stable, BMI30kgs/m^2. Physical examination mild epigastric tenderness was there. Patient's cardiac, respiratory and nervous system examination does not reveal any abnormality clinically. Findings on chest X-ray and ECG were also normal. Complete blood count and biochemical tests were within normal limits. His complaint had been continued during hospitalization. Abdominal ultrasonography and computarized tomography (CT) scan of the brain were normal. Upper esophago-gastroduodeno endoscopy showed grade B esophagitis according to Los Angeles classification [4], pan gastritis and erosive bulbitis. Biopsies from esophagus and stomach were performed. Esomeprazol 40 mg qday and sucralfate 1 g qid were initiated. Hiccup was resolved after second day of the treatment. Gastric and esophageal biopsy showed Barrett oesophagus and chronic activated gastritis. Helicobacter pylori (HP) infection was determined. H.Pylori eradication kit was initiated for two weeks. Life style modification was emphasised. Continued esomeprazole 40mg for 8weeks. At the follow up, hiccup was not repeated in last few months.

Case 2

A 35 years-old man was admitted to our department with complaints of hiccup for one month, intermittent more during nights. Gives history of retrosternal discomfort and regurgitation. Patient had poor dietary habits and a smoker for 10yrs. On admission, his vitals were stable, BMI 28kgs/m^2. Physical examination mild epigastric tenderness was there. Patients cardiac , respiratory and nervous system examination does not reveal any abnormality clinically Complete blood count and biochemical tests were within normal limits. Chest x-ray and electrocardiogram were normal. Abdominal ultrasonography was normal. CT scan of the brain was normal for aetiology of hiccup. Upper esophago gastroduodeno endoscopy showed Los Angeles class grade A esophagitis. PPI such as Esomeprazole 40 mg/day and sucralfate 1gm thrice daily treatment were initiated. Hiccup was resolved after three days of the treatment. Life style modification emphasized. Continued Esomeprazole 40mg qday and tapered by 8weeks. At the follow up, hiccup was not repeated during last two month.

DISCUSSION

Hiccup is an involuntary, reflex-like activity that begins with contraction of the diaphragm shortly terminated by the abrupt closure of the glottis [5]. Hiccup although a common annoyance of life, has been linked with significant morbidity and even death. Causes of intractable hiccup include central nervous system (CNS) lesions (neoplasms, hydrocephalus, multiple sclerosis, syringomyelia, trauma, ischemia, haemorrhage, infectious diseases, etc), toxic-metabolic disorders (uremia, diabetes mellitus, alcohol, hyponatremia, gout, hypokalemia, etc), irritation of the diaphragm or of the vagus nerve at several levels, drugs ([alpha]-methyldopa, short-acting barbiturates, dexamethasone, diazepam, chlordiazepoxide, CNS stimulants, sulfonamides, and antiepileptic agents), general anesthesia, postoperative causes, and psychogenic causes and may also be idiopathic [6].

Gastrointestinal stimuli can cause the reflex excitation of the neurons responsible for hiccup. It has proposed that there are receptors in the esophagus which when excited, send impulses through the vagus nerve to the CNS, resulting in net excitation of the respiratory motor neurons and hiccup [7]. Esophageal disorder during hiccup has significance, in view of the recent reported association between hiccup and GERD [8].

Los Angeles Classification of Esophagitis using Image Processing Techniques(13). Pooran et al reported four cases of hiccup due to severe erosive esophagitis. These cases presented various complaints such as epigatric pain, water brash, regurgitation and retrosternal burning. Their patient's complaint, hiccup had improved with PPI therapy [9]. Shay et al reported a 67 years old man with heartburn, water brash and hiccups [10].

Dore et al evaluated the prevalence of atypical symptoms in a population of GERD patients. They found that the prevalence of hiccup in GERD was 4.5%. After PPI therapy, they showed that 0% for prevalence of hiccup [11]. Bor et al. reported prevalence of GERD symptoms in Turkey and found that prevalence of hiccup was 9.5% [12].

Proton pump inhibitors (PPIs) are substituted benzimidazoles administered as enteric-coated tablets or capsules that pass through the stomach and are absorbed in the duodenum. They act on the proton pump molecule on the luminal surface of gastric parietal cells, resulting in inhibition of acid secretion. Esomeprazole is the latest PPI and was developed as the S-isomer of omeprazole as an improvement in its pharmacokinetic properties. PPIs are the drugs of choice in the treatment of GERD [14,15].

Our cases excluded other diseases in aetiology of hiccups such as CNS disease, uraemia, diabetes mellitus, hyponatremia, gout and hypokalaemia. They were not use drugs that cause of hiccups. Our cases presented retrosternal burning and regurgitation. UGI Endoscopy showed esophagitis in the two cases. We conclude that GERD may be underestimated as a cause of hiccups in two patients. Therapy was initiated with esomeprazole (PPI). Patients responded well to therapy and life style modification. In conclusion, Hiccup is atypical symptom of GERD. If a patient turn to with hiccup, he/she must be evaluated for GERD.

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