



Voluntary Generation of Hiccups in Dyspepsia Patients- Malhotra's Reflex

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Abstract

The medical term for hiccups is singultus, which has been derived from the Latin word "singult," meaning "to catch your breath while sobbing. The irritation of diaphragm causes an involuntary spasm, forcing sucking of air into throat, where it hits voice box which causes vocal cords to suddenly close, creating the distinct "hic!" sound. Hiccups can be due to physical or emotional reasons. Gas is a normal part of the digestive process. Flatulence is the state of having excessive stomach and/or intestinal gas (waste gas produced during digestion) that is usually released from the anus. It is common to pass gas 8- 20 times a day. There are many food items that cause increased gas production like soluble fibre (found in oat bran, fruits, psyllium husk and beans), lactose in milk, fructose in fruits, and high-fructose corn syrup, Raffinose in vegetables such as cabbage, cauliflower and broccoli, sorbitol in artificial sweeteners and gum, hot spicy foods, fatty & fried foods and malabsorption of certain foods.

During Gastroenterology practice of last seventeen years, I have personally seen and followed hundreds of Dyspepsia patient, who were also having anxiety symptoms, exhibited a classic phenomenon that whenever they press any part of body, especially the upper limbs or face, they use to expel the excessive gas via hiccups and this procedure was independent of time or food intake and could be replicated any time. Moreover, they felt that the gas from stomach is entering brain and causing headache. This phenomenon resembles Pavlov's experiments, where dogs salivated when they heard a bell because they associated the bell with food. The most probable reason for adapting this manoeuvre can be seeing it in your close ones and due to base line anxiety and psychological dependence, easy adaptability takes place, and patient starts trying on himself and then slowly develops expertise in exhibiting this phenomenon which has been labelled by me as MALHOTRA'S REFLEX.

Keywords: Hiccups; Gas; Pavlov's reflex; Anxiety; Adaptation

Introduction

There are many myths in the patients, their family members and society at large related to various ailments which easily percolate in future generations, mainly due to illiteracy and lack of easy availability of specialized medical care [1-3]. When these myths persist for years together, then they can even lead to development of many kinds of phobias and require regular awareness for the same [4,5]. There is huge load of gastro-intestinal ailments, and these patients are seen not only by gastroenterologist but also by general physicians and surgeons. Out of all gastro-intestinal ailments, dyspepsia and excessive gas formation are most common which are also seen in majority patients of irritable bowel syndrome which itself has prevalence of 15-25% in general population.

Hiccups

The medical term for hiccups is singultus, which has been derived from the Latin word "singult," meaning "to catch your

breath while sobbing. The irritation of diaphragm causes an involuntary spasm, forcing sucking of air into throat, where it hits voice box which causes vocal cords to suddenly close, creating the distinct "hic!" sound. Hiccups can be due to physical or emotional reasons like eating too much or too quickly, feeling nervous or excited, drinking carbonated beverages or too much alcohol, stress, a sudden change in temperature, swallowing air while sucking on candy or chewing gum. They can be induced by drugs like azithromycin, dexamethasone, benzodiazepines, dopamine agonists and chemotherapy drugs for cancer. The emotional hiccups are due to irritation of phrenic nerve which regulates the diaphragm. Any kind of scare, shock, or nervous reaction can irritate the phrenic nerve and trigger a spasm in diaphragm, causing hiccups.

Hiccups can be transient which occurs commonly in everyone and lasts for few seconds to minutes or persistent which are due to damage or aggravation to the nerves connected to the diaphragm

like in sore throat, tumours, goitre, meningitis, encephalitis, diabetes mellitus and uraemia. The experts have recommended many ways to get rid of hiccups like holding breath or breathing into a paper bag which leads to increase in concentration of carbon dioxide in lungs and thus relaxation of the diaphragm. Other remedies that have advocated are taking sips of cold water, gargling with ice water, drawing your knees to chest and leaning forward, swallowing granulated sugar or biting into a lemon. The drugs used to relieve hiccups include baclofen, chlorpromazine, gabapentin, metoclopramide and proton pump inhibitors. Many remedies which are scientifically unproven and used are pulling tongue out forcefully, triggering gag reflex, using a modified Heimlich manoeuvre with three thrusts below your rib cage every 10 seconds, drinking vinegar, eating peanut butter, inserting a tube up into nose, putting a cold compress on face and inducing cough.

Gas

Gas is a normal part of the digestive process. Flatulence is the state of having excessive stomach and/or intestinal gas (waste gas produced during digestion) that is usually released from the anus. It is common to pass gas 8-20 times a day. Gas is caused by the amount of air swallowed and how fast the gastrointestinal tract moves to release the gas. The bacteria living in the colon that helps to digest food by fermentation may also cause gas. Medical treatment for flatulence may include antibiotic treatment, increased dietary fibre intake, diet changes and probiotics; more serious causes of flatulence like irritable bowel syndrome and small intestinal bacterial overgrowth [SIBO] may require additional medications. There are many food items that cause increased gas production like soluble fibre (found in oat bran, fruits, psyllium husk and beans), lactose in milk, fructose in fruits, and high-fructose corn syrup, Raffinose in vegetables such as cabbage, cauliflower and broccoli, sorbitol in artificial sweeteners and gum, hot spicy foods, fatty & fried foods and malabsorption of certain foods. The measures to decrease gas production include eating slowly without talking, avoiding smoking, chewing gum, candy, carbonated drinks, caffeine, repeated belching as it ends up swallowing more air than expelled.

Malhotra's Reflex

During Gastroenterology practice of last seventeen years, I have personally seen and followed hundreds of Dyspepsia patient, who were also having anxiety symptoms, exhibited a classic phenomenon that whenever they press any part of body, especially the upper limbs or face, they use to expel the excessive gas via hiccups and this procedure was independent of time or food intake and could be replicated any time. Moreover, they felt that the gas from stomach is entering brain and causing headache. It is well known fact that hiccups are involuntary and draws more air inside, in comparison to the expelled one, thus lead to total increase in amount of gas in stomach. Surprisingly, these patients can bring hiccups voluntarily and psychologically got relief from gas. Moreover, there is no route in body for gas to enter into brain, it can be expelled only through mouth or anus. When

these patients were probed in detail, then they admitted that, they use to perform this manoeuvre of passing gas through repeated hiccups by pressing parts of body when they were more anxious. This phenomenon resembles Pavlov's experiments, where dogs salivated when they heard a bell because they associated the bell with food.

In practicality this manoeuvre done by anxious dyspepsia patient is dependent on their psychology where they have developed pseudo feeling of getting relief from gas which has no scientific basis. The most probable reason for adapting this manoeuvre can be seeing it in your close ones and due to base line anxiety and psychological dependence, easy adaptability takes place, and patient starts trying on himself and then slowly develops expertise in exhibiting this phenomenon which has been labelled by me as MALHOTRA'S REFLEX. I have thoroughly searched the available literature, and no special name has been given to above phenomenon and this term has been given after seeing thousands of gastro-intestinal patients including dyspepsia, gas & flatulence and IBS. The patients in whom Malhotra's reflex was present underwent repeated psychological counselling sessions, including clear explanation for scientific rationale of hiccups and gas in normal body. They were also explained manoeuvres to decrease their stress levels like meditation, attention diversion techniques, anti-anxiety medications and psychiatry consultation. They were strictly advised for avoiding compressing any part of body for generating hiccups and expulsion of gas through mouth. All these efforts were successful in majority of patients but took around 3-6 months of continuous efforts and most difficult patients to treat were young children and females.

Conclusion

There are many myths in the patients, their family members and society at large related to various ailments which easily percolate in future generations, mainly due to illiteracy and lack of easy availability of specialized medical care. Taking advantage of it, many unqualified practitioners are flourishing in developing countries like India and are also responsible for successful generation of myths like Malhotra's Reflex in society. The naming of such kind of phenomenon is important because it leads to easy acceptability and interpretation universally by the medical specialists which ultimately help in proper diagnosis and management.

Conflict of Interest

The author declares that there was no conflict of interest, and no finances were taken for publishing this manuscript.

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