Belching, Bloating, and Flatulence

Belching, Bloating, and Flatulence Overview

Intestinal gas is a topic that people often find difficult to discuss, but we all have gas in our intestinal tract. Gas can contribute to a sense of bloating (fullness), belching, abdominal cramps, and flatulence (gas). These symptoms are usually brief and resolve once gas is released by belching or flatulence. Some people can be more sensitive to even normal amounts of gas and develop the above symptoms.

Symptoms

Belching is a normal process and results from swallowed air accumulating in the stomach. The air can either be belched back or can be passed out of the stomach into the small intestine and be subsequently passed as rectal gas (flatus).

Bloating refers to a sense of fullness in the upper abdomen. This can be influenced by gas and/or food accumulation in the stomach. Some patients experience the symptom with normal amounts of gastric gas.

Flatulence refers to the passage of rectal gas. The gas is generally a combination of swallowed air and gas produced by the action of colon bacteria on undigested carbohydrates.

Gas which accumulates in the right upper portion of the colon can lead to pain which could seem like gallbladder pain. Gas which accumulates in the left upper portion of the colon can radiate up to the chest and seem like cardiac pain.

Causes

We all swallow air during the process of eating. Individuals can have excess swallowing due to sucking on hard candies or chewing gum. Drinking carbonated beverages such as soda or beer can also generate excess gastric air. In addition, individuals who experience anxiety may swallow air excessively. Poorly fitting dentures and chronic postnasal “drip” can also cause excess air swallowing. As a result, significant amounts of gas can enter the stomach and small bowel in 24 hours which can lead to belching, bloating or flatulence.

Some carbohydrates cannot be digested by the enzymes in the small intestine and reach the colon where bacteria metabolize them to hydrogen and carbon dioxide gasses. Examples of such food are bran, cabbage, cauliflower, broccoli, and beans. This can result in excess flatulence in some patients. Many patients experience abdominal cramps, bloating and flatulence when they ingest milk, certain cheeses or ice cream because they lack the enzyme (lactase) which is required to digest milk sugars (lactose). This condition, called lactose intolerance, is less common in people of northern European origin.

Another cause of bloating and abdominal distension is termed bacterial overgrowth. This is not an infection, but occurs when there is an excess amount of normal bacteria in the small intestine. This results in increased production of intestinal gas contributing to the above symptoms. Finally, underlying constipation may also contribute to bloating and a sense of abdominal distention.

Risk Factors

As mentioned above, excessive air swallowing, and certain foods and carbonated beverages are significant contributors to belching and flatulence. Some patients with Irritable Bowel Syndrome (IBS) appear to be uniquely sensitive to normal or only slightly increased volumes of intestinal gas and may develop abdominal cramps as a result. Patients with altered anatomy due to surgery or those with certain rheumatologic diseases may be at an increased risk of bacterial overgrowth in the small intestine which can lead to belching, bloating or flatulence.

Some patients, particularly women who have had one or more pregnancies, experience abdominal distension when standing erect.

This is often assumed to be gas accumulation. However, if the distension is not present when the patient is lying “flat”, then the likely explanation is weak abdominal muscles (which extend from the lower rib cage to the pelvis on both sides of the belly button) due to the stretching and loss of muscle tone which occurs during pregnancy.

Diagnosis

There are individuals who have heartburn and stomach disorders that may swallow air for relief. The diagnosis of esophageal reflux or gastric inflammation should be excluded by x-rays or endoscopy (examining the esophagus and stomach with a flexible tube while the patient is sedated). Abdominal distension when erect but not when recumbent is an indication of weak abdominal muscles. If lactose intolerance is suspected, milk can be withdrawn from the diet and symptoms observed. However, lactose can be administered orally and the hydrogen gas which is generated in susceptible people can be measured in the breath. Postnasal discharge from sinus problems can cause air swallowing and should be considered. If bacterial overgrowth is suspected, your physician may administer a hydrogen breath test.

Blood tests are not usually helpful for gaseous problems but testing for celiac disease may prove useful since failure to absorb wheat, barley, and rye can lead to excess flatulence.

Patients complaining of excessive gas passages may benefit from keeping a “flatus” diary for three days. The time of each gas passage and food for each meal can be noted. The gas passages can be compared to published “normal” flatus frequency.

Treatment

Patients should eliminate carbonated beverages such as soda and beer. Foods such as cauliflower, broccoli, cabbage, beans, and bran should be avoided. Milk and other dairy foods should be avoided. Lactaid milk or non-dairy milk such as soy or almond milk can be used. Chewing gum and sucking on hard candies should be avoided. Sugar free gum and hard candies should be avoided as they may have mannitol or sorbitol as sweeteners which can cause flatulence. One diet in particular that can be helpful is the low FODMAP (fermentable oligo-, di-, and monosaccharides and polyols) diet. This involves cutting out certain foods that are poorly absorbed and that can result in gas symptoms. Meeting with a dietician for specific advice can help.

Simethicone products have been promoted as treatment for gaseousness but their efficacy has not been convincing. Charcoal tablets have also been used to reduce flatulence without convincing benefit. Bismuth subsalicylate has been used to reduce the noxious odor of some sulfa-containing rectal gasses. Alpha-d-galactosidase, an over the counter product, has been used to help in the digestion of complex carbohydrates. Some patients may benefit from this strategy.

Individuals with IBS may benefit from symptomatic therapy for “gas pains” by using antispasmodic therapy such as dicyclomine or hyoscyamine under the tongue.

Some patients with bacterial overgrowth may see improvement from the occasional use of antibiotics to reduce the number of bacteria in the small bowel, thereby reducing gas production.

If weak abdominal muscles are suspected as a cause for abdominal distension, abdominal-tensing exercises may be helpful, although very difficult to achieve when patients are middle aged and older.

If symptoms fail to respond to the dietary strategies noted above, medical help should be sought to be confident that no other underlying abnormalities are present.

IMPORTANT POINTS

- Belching and flatulence are normal body processes.
- Swallowed air is “gas” in the body and contributes significantly to symptoms.
- Unabsorbed dietary carbohydrates can cause gas production by colon bacteria.
- Carbonated beverages, sucking on hard candy, and chewing gum should be avoided.
- Abdominal distension when erect but not recumbent may be due to weak abdominal muscles.
- Increasing frequency or severity of symptoms should prompt medical attention.

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