

Image Awareness Healthletter



Happy Digestion

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Heartburn

Heartburn is scientifically referred to as Gastroesophageal Reflux Disease (GERD). Heartburn and indigestion have been a part of the American culture for decades. Food has always been abundant in the New World and those who have lived here have tended to overeat. Pioneers knew of indigestion as dyspepsia.

Symptoms of Heartburn

Heartburn is basically a result of acid finding its way into the esophagus. It does not belong there. The result is that these delicate tissues are then irritated by the acid causing heartburn.

Heartburn can be minor which simply produces discomfort. It can also be chronic and severe resulting in scarring, constriction, ulceration and possibly even cancer. There is little evidence to support the notion that heartburn is caused by excess stomach acid.

Antacid Treatments

Heartburn and other symptoms of digestive discomfort are often treated with antacids in our society. Three basic kinds of antacids are used.

Acid neutralizers simply neutralize stomach acid for a short while and are the safest of antacids.

H2-Receptor blockers suppress the process of acid secretion in the stomach. Side effects can be severe including constipation, diarrhea, nausea, vomiting, and heartburn itself. Acid is blocked for several hours.

Proton pump inhibitors block the chemical pump which pushes acid into the stomach. The suppression of stomach acid is 90 to 95 percent and can last for a day!¹ Common sense suggests that this total blockage of stomach acid is highly undesirable.

Cause of Heartburn

A good percentage of the older population of the United States is using acid blockers. The rationale for this use is that they are oversecreting stomach acid. Jonathan Wright notes a problem here:

"The incidence of indigestion, 'simple' heartburn, and GERD increases with age, while stomach acid levels generally decline with age. If too much acid were causing these problems, teenagers should have frequent heartburn, while Grandma and Grandpa should have much less. Of course, as everyone knows, exactly the opposite is generally true."¹

If elevated stomach acid is not responsible for heartburn, what is the cause? Heartburn can usually be traced to a failure of a

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valve or sphincter at the lower end of the esophagus. The purpose of this muscle is to prevent the contents of the stomach from backing up. If the muscle fails, the result is heartburn.

Probably the most common cause of failure of the muscle is simply overeating for a period of many years. Another contributor could be weakening of the muscle due to aging or malnutrition. An individual may also have a tendency to release more stomach acid when the pH of the stomach is low.

Overeating

Overeating is common when there is an abundance of tasty food. Food processors are masters of the "Can't Eat Just One" Syndrome.² It is well known that intake of partially hydrogenated oils, sugar, salt and other spices can cause overeating. For example, studies have shown that sugar and salt can double the food consumption of rabbits.³ Animals and humans will tend to eat six times the normal amount of food when consuming partially hydrogenated oils.⁴

Weakening of Muscle

Failure of muscle function is not an impossibility. It is well known that calcium is essential for muscle contraction and magnesium for muscle relaxation. Lack of either of these nutrients could easily affect muscle function. Magnesium is essential for muscle strength.

B complex vitamins are also important for muscle strength. Lack of vitamin B5 or pantothenic acid will cause rat intestinal muscle to lose its ability to

contract.



Excess Stomach Acid

Excess stomach acid can also be a problem. Factors which might contribute to excess stomach acid include excessive intake of caffeine, sugar, foods to which one is allergic, and antacids. Stress may also play a role.

Excessive sugar intake increases the hydrochloric acid in the stomach by 20 percent. Pepsin secretion increases 200 percent. Yudkin suggests that this change could result in chronic gastritis and perhaps gastric and duodenal ulcer.⁵

Antacids can cause an acid rebound. The digestive tract is a feedback mechanism which is meant to be acid. When the acidity of the stomach is neutralized, the body can work to overcome this alkaline load by the secretion of more acid.

My experience suggests that use of a small amount of protein or aloe drink will eliminate heartburn in many situations. Protein is a mild natural antacid. Aloe not only buffers stomach acid, but also promotes healing of the esophagus.

Footnotes

1. Wright, Jonathan, "The Myth of Acid Indigestion," *Nutrition and Healing*, September 2001, p. 1-2.

2. Stitt, Paul, *Beating the Food Giants*, Manitowoc, WI., Natural Press, 1993.

3. Geiselman, Paula, "Feeding Patterns Following Normal Ingestion and Intragastric Infusion of Glucose, Fructose, and Galactose in the Rabbit," *Nutrition and Behavior* 2:175-188 (1985).

4. Budwig, Johanna, *Flax Oil as a True Aid Against Arthritis, Heart Infarction, Cancer and Other Diseases*, Vancouver, Apple Publishing company, 1994, p. 33.

5. Yudkin, John, "Sugar and Disease," *Nature*, Vol. 239, Sept. 22, 1972.



Antacid Treatments

Acid Neutralizers

Acid Neutralizers or antacids. Acid and alkali neutralize each other. Short lived effects because they do not affect secretion.

- **Tums**
- **Rolaids**
- **Maalox**
- **Alka-Seltzer**
- **Acid Blockers**

H2-Receptor Blockers

Throw a roadblock right in the middle of the process that leads to acid secretion. Suppression of acid for hours at a time. Side effects: GI disturbance, constipation, diarrhea, nausea, vomiting, heartburn.

- **Tagamet**
- **Zantac**
- **Pepcid**
- **Axid**

Proton Pump Inhibitors

Proton Pump Inhibitors (PPI's): the most potent acid-sup-

pressing drugs. They block the proton pump which secretes stomach acid. Reduce stomach acid by 90-95 percent for the better part of a day. Side effects: diarrhea, skin reactions, headache, impotence, breast enlargement, gout.

- **Prilosec**
- **Prevacid**
- **Aciphex**
- **Nexium**

Hydrochloric Acid

Sale of antacids amounts to about a five billion dollar industry in the United States. One wonders about the wisdom of the widespread use of antacids in light of the important role of hydrochloric acid in the promotion of health.

Stomach acid serves two primary functions. Firstly it helps us break down and digest our meals. Secondly, it kills harmful pathogens in the food which run the risk of infesting the digestive tract and possibly even killing us.

Digestion

Low stomach acid is associated with incomplete breakdown of food, absorption of undigested food molecules, and increased likelihood of allergic response.¹

Philpott recounts a number of dramatic situations in which supplementation of his patients with HCL and enzymes resulted in dramatic alleviation of severe allergic and diabetic responses. For example, he tells of a patient who responded to cheddar cheese by developing a rigid catatonia. After supplementation with hydrochloric acid and a meal of cheddar cheese, this patient developed only a minor

sweating of the hands.²

The Gastric Barrier

Destruction of the acid barrier in the stomach has potentially serious consequences. A pH of 4 kills bacteria. A pH of less than 3 kills bacteria in less than 15 minutes. This function becomes very inefficient if we block stomach acid production for hours or a day as some antacid products do.

Giannella writes,

*"We believe that the available data...support the concept that gastric hypochlorhydria (low stomach acid) or achlorhydria increases both susceptibility to and severity of bacterial and perhaps also of certain parasitic enteric infections."*³

In 1885 Koch, the father of bacteriology, was seeking a means of infecting guinea pigs with cholera. He established a predictable pattern of infection when he administered the cholera germs with bicarbonate or antacids. Bicarbonate administered with cholera bacteria reduces the threshold dose to create an infection 10,000 times!³

Salmonella infection usually results in less than 1 litre of diarrhea per day for less than 6 days duration. When little or no hydrochloric acid is present infections lasted 7-14 days and volume of stool ranged from 3.5 to 10.5 litres a day. In other words, salmonella infection lasted twice as long and was 3.5 to 10.5 times more severe when stomach acid was low.³

Low stomach acid increases risk of a number of parasitic infections. Examination of 50 pa-

tients with Giardia found 42% with low stomach acid and 12% with no stomach acid. Giardia requires a pH between 6.4 to 7.1 to thrive.³

A potential risk of low stomach acid and resulting bacterial overgrowth is stomach cancer. Low stomach acid allows bacteria to grow in the stomach which can convert nitrates and nitrites to nitrosamines which cause stomach cancer.⁴

One hundred percent of patients with duodenal ulcers and seventy percent of those with gastric ulcers have overgrowth of a bacteria called Helicobacter pylori. Overgrowth of Helicobacter bacteria is associated with low or missing stomach acid. About fifty percent of the population over 50 tests positive for this bacteria.⁵

In view of the serious consequences of low stomach acid, it should be obvious that this is not a desirable condition. The use of antacids often begins in response to episodes of low stomach acid characterized by bloating, belching, burping or digestive discomfort. These will often clear up with a little stomach acid support.

Stomach Acid Deficiencies Not Uncommon

Production of stomach acid is a very energy demanding process. The body must control an acid medium strong enough to digest its own tissue. Generous quantities of protective mucous must also be secreted to protect the stomach lining. At least 32 different nutrients have been linked to an effectively function-

ing digestive tract.⁶

As has been indicated earlier, the incidence of deficiency of stomach acid increases with age. Some studies have found that half of those over 60 have low stomach acid.⁵

Footnotes

1. Walker, W.A., and Isselbacher, Kurt J., "Uptake and Transport of Macromolecules by the Intestine," *Gastroenterology* 67:538, 1974.

2. Philpott, William, Kalita, Dwight, *Brain Allergies: The Psycho-Nutrient Connection*, New Canaan, Conn.: Keats Publishing, Inc., 1980, p. 178.

3. Giannella, Ralph, Broitman, Selwyn, and Zamcheck, Norman, "Influence of Gastric Acidity on Bacterial and Parasitic Enteric Infections," *Annals of Internal Medicine*, 78:271-2, 1973.

4. Ruddell, W.S. J., et al., "Gastric Juice Nitrite," *The Lancet*, Nov. 13, 1976, p. 7994.

5. Murray, Michael, and Pizzorno, Joseph, *Encyclopedia of Natural Medicine*, Rocklin, CA.: Prima Publishing, 1998, p. 136-7.

6. Seaman, David, "Whole Food and Nutritional Supplementation Interactions in the Digestive Process," *Clinical Chemistry and Nutrition Guidebook* ed. Paul Yanick, Jr. and Russell Jaffe, T&H Publishing, 1988, p.466.

Picture of Low Stomach Acid

When stomach acid is low, protein digestion does not take place in the stomach. The emp-

tying of the stomach slows down resulting in indigestion, burping and bloating. Bacteria growing in the stomach can cause bad breath and gas. Tuckey writes,

"In some of the halitosis cases, people who have a bad breath will find it disappear very quickly when the HCL is normalized in the stomach.

This is because normal emptying time of the stomach is improved so that there is no putrefaction taking place in the stomach."

Low acid in the stomach interferes with mineral absorption. Adequate stomach acid is important for absorption of calcium, magnesium, vitamin B12 and iron. Poor absorption of the minerals and bacterial overgrowth can contribute to the development of arthritis. Poor mineral absorption also could play a major role in osteoporosis. Poor B12 absorption can lead to pernicious anemia.

Lack of stomach acid will result in spasms of the pylorus at the beginning of the small intestine. This hinders the emptying

of the bile, creating difficulties with fat digestion. Low stomach acid is associated with gallbladder problems.

The emptying of the pancreas is also interfered with by low stomach acid. This can lead to enlargement and tenderness of the pancreas.

Constipation often accompanies low stomach acid production. An embarrassing condition called pruritis ani (itching in the area of the rectum) is also contributed to by low stomach acid.

Intolerance of fruit juices is common. Tucky notes, "This is generally a quick indication that they have a deficiency of hydrochloric acid."

Tuckey, Hugh, "The Human Need for Hydrochloric Acid," *National Health Federation Bulletin*, October 1967.

