What Else Can We Attribute to GERD? Some Seldom Discussed Complications of Gastroesophageal Reflux

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Gastroesophageal reflux disease (GERD) is commonly discussed in the pages of *Digestive Health Matters*. Therefore readers will be familiar with the common consequences of acid from the stomach refluxing upwards into the unprotected esophagus. These include heartburn, unexplained chest pain (non-cardiac chest pain), and inflammation and scarring of the lower esophagus (esophageal stricture) leading to swallowing difficulty. There has also been much written about chronic changes wrought by chronic reflux of gastric contents into the lower esophagus that are known as Barrett's esophagus and thought to indicate a risk of subsequent cancer. However, this article will deal with several seldom-described consequences of GERD that are not rare and which can cause great distress in their own right.

Sore Throat, Cough

Awakening with a sore throat and cough is not always a harbinger of the common cold. Nocturnal reflux, especially after late-night food or alcohol intake, may reach the throat without awakening the individual. The refluxed gastric contents irritate sensitive tissues causing a sore throat, a need to "clear the throat," and cough. There are other causes of course, such as dry environments, or allergies. However, if due to reflux, the sore throat and cough is easily prevented by avoiding late night eating and drinking, and employing other anti-reflux measures. [See IFFGD publication 501 for more information on anti-reflux measures.]

Nocturnal Choking

Some people awake an hour or so after retiring with attacks of choking and retching. Acid and sometimes food appear in the throat and there is severe burning. Heartburn may or may not be present. Here again late-night rich food and revelry may load the stomach, and the reclining position during sleep sets the stage for food and acid to reflux all the way to the throat. These attacks are distressing and the burning throat may take hours to settle down.

Particularly prone to this type of attack are people suffering from sleep apnea. In this condition, deep sleep causes the tissues around the throat to collapse so the sleeper must breathe in through an obstructed airway. The most common and best-known manifestation of sleep apnea is snoring. More subtle signs are daytime sleepiness and high blood pressure. What concerns us here is that the forced inhalation required to try to overcome the obstructed airway may inadvertently suck gastric contents up the esophagus and into the throat. In addition to retiring with an empty stomach and employing other anti-reflux measures, such patients are dramatically helped by treatment of the sleep apnea. This usually involves the use of a positive airway pressure machine (c-PAP), which through a facemask maintains sufficient pressure to keep the airway open during sleep.

Aspiration Pneumonia

Debilitated or elderly patients may have reduced sensitivity in the throat. This may reduce the usual anti-reflux defenses and permit some individuals to breath in (aspirate) regurgitated material into their lungs. The result is a chemical pneumonia quickly followed by infection with opportunistic organisms. Patients with reduced consciousness are very prone to aspirate, but in ambulatory persons it is rare. Aspiration pneumonia may be difficult to treat because of the unusual organisms that invade the damaged lungs, and continued aspiration may occur if the condition is unrecognized. Aspiration is a particular danger when elderly or semi-conscious patients undergo tests requiring insertion of a tube into the esophagus such as endoscopy, and is one reason why the procedure must be done after fasting and with careful monitoring.

Asthma

There is an interesting relationship between non-allergic (non-seasonal) asthma and gastroesophageal reflux. Respiratory symptoms such as coughing or wheezing produce reflux by sudden, violent changes in the intra-abdominal and intra-thoracic pressures. Reflux also may occur during the deep inhalation taken before forceful exhalation by an asthmatic. Conversely, acid reflux irritates the larynx and may cause a reflex constriction of the bronchi.

In an individual, it is difficult to prove that reflux causes asthma. The best proof is improvement of both reflux and asthma with effective anti-reflux therapy. In one study, both anti-reflux surgery and the anti-acid H2 blocking drug cimetidine improved asthma. While the surgery-treated patients remained better 5 years later, those given cimetidine relapsed when use of the drug was ceased. Thus, if reflux is suspected as a cause of non-allergic asthma, the sensible course is to intensively treat the effects of reflux by reducing

the acidity of the refluxed material. Today, a proton pump inhibitor (PPI) would be the drug of choice.

Acid Laryngitis

Occasionally, gastric juice may reflux through the esophagus and upper esophageal sphincter and spill into the larynx, or voice box. The ensuing inflammation of the posterior larynx causes laryngitis and hoarseness. Acid may be detected in the larynx in some reflux episodes, and damage to the larynx is sometimes visible through a scope. Diagnosis may be difficult. There may be no heartburn to warn the individual of a reflux episode. Just as the esophagus may look normal in a person with heartburn, so laryngitis may occur with a normal appearing larynx.

Symptoms include hoarseness, persistent nonproductive cough, and a need to continually clear the throat. Some individuals feel that something is stuck in the throat. Some patients improve using a PPI. More importantly, the individual should undertake the lifestyle changes necessary to minimize reflux.

Dental Erosions

Regurgitation of acid into the mouth can cause dental erosions. It seems remarkable that such reflux could occur without serious esophageal symptoms leading to preventative action. Nevertheless, apparently nocturnal reflux of gastric acid can damage the enamel of teeth. Unlike dental caries (cavities), the damage occurs on the exposed surfaces of the tooth.

Reflux Dyspareunia

In a study of 100 women from Glasgow, 77 reported having heartburn during intercourse. This phenomenon may be more common than publicly admitted. Clearly the recumbent position on a full stomach is ill advised. The Scottish researchers recommended weight loss, avoidance of stooping, and the "female-superior position" which they claim improved 61 of their 77 subjects.

Misdiagnosis

Because of poor communication or a genuine misperception, physicians may mistake heart pain for heartburn and lose an opportunity for life-prolonging therapy. Usually coronary pain (angina) is a characteristic retrosternal pressure, squeezing, or heaviness that occurs with exertion. Sufferers often know their exact limits and are able to prevent angina by measured exertion. Cold air also causes angina. Heart pain is usually centered in the breast, and the discomfort sometimes extends up into the neck and inside the left arm. The lower esophagus lies just behind the heart, so it is not surprising that the pain distribution of GERD is similar to that of angina. When these two conditions occur together, interpretation is doubly difficult.

Vigorous exercise may provoke reflux as well as angina. Nonetheless, most patients recognize the burning and position-related nature of their heartburn. While mistaking angina for heartburn is the more serious error, mistaking esophageal pain for angina is more common, and can produce much worry. This is sometimes known as "non-cardiac chest pain." Imprecise history taking can also cause confusion between heartburn and dyspepsia, biliary colic, or pains in the chest muscles or in the joints where the ribs attach to the breastbone.

Treatment

The best treatment of these lesser-known complications of GERD is the rigorous prevention of reflux through measures described in other issues of *Digestive Health Matters*, a quarterly publication of IFFGD. While acid reducing drugs such as the H2 blocking agents (e.g., ranitidine, famotidine, cimetidine, nizatidine) and proton pump inhibitors (e.g., esomeprazole, omeprazole, lansoprazole, rabeprazole, pantoprazole) are helpful, they only reduce the acidity of the refluxed material. Other refluxed substances may also cause many of the conditions described above. The importance of letting a meal digest and move out of the stomach before retiring cannot be overemphasized.

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