

Acid reflux disease essay example

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Background.

Gastrointestinal tract is a series of organs starting at the mouth and ending in the anus. The movement of various muscles in GI tract and release of enzymes and acid in the stomach initiate digestion of food. The upper GI tract is made up of the organs mouth, esophagus, stomach, small intestine and duodenum¹.

Gastroesophageal reflux is the process of backing up or refluxing of the stomach content to the esophagus or mouth. It is a normal developmental process observed in many healthy infants. Most episodes of GER are asymptomatic, though occasional spit up is observed in GER in infants. Adults may also experience GER occasionally. When it happens the acid present in the stomach regurgitates and the sufferer can taste the acidic fluid or food in their mouth.

When the acid is backed up to esophageal lining it causes discomfort which is usually known as heart burn. Heart burn is experienced as burning sensation in the upper part of abdomen, upper chest region or behind the breastbone region. People who experience occasional heart burn can prevent the symptoms of GER by avoiding overeating, or avoiding consumption of food and drink that contribute to reflux process, avoiding eating 2-3 hours before going to bed, quit smoking etc.

Introduction

Gastroesophageal reflux disease (GERD) is a condition of improper functioning of the lower esophageal sphincter. GERD is sometimes referred to as GORD. Esophagus is a tube like structure that transports food from

mouth to stomach. It is made of muscle and tissue. Stomach is the organ that holds the food and grinds the food as an initial step of digestion. The stomach is responsible for acid and enzyme secretion that initiate the food breakdown.

In healthy adults the “ Angle of His” is the angle at which the muscle of esophagus enters the stomach. This angle acts as a sphincter or a valve (lower esophageal sphincter) that prevents the stomach acid or duodenal bile or food content from backing or refluxing. The esophageal muscle valve becomes weak or has an undesired relaxation resulting in GERD. Swallowing is another physiological process that is utilized by esophagus in eliminating acid. Swallowing triggers peristalsis that pushes food, saliva and occasionally acid into the stomach from the esophageal tube. The wave of contraction associated with peristalsis is defective or abnormal in GERD. The waves of contraction do not begin at all or die down in patients with GERD. The pressure of contraction is very weak in patients of GERD that slows or stops the acid clearance. The process of emptying of stomach is unusually slow in patients with GERD. Slow emptying of stomach means that food and enzymes are present in the stomach for extended amount of time. When the symptoms of acid reflux occur twice or more times in a week and when they interfere with every day functioning they are described as GERD by the physician. The frequent reflux of acids and bile to the esophagus can cause damage or injury.

Causes of GERD.

Hiatal hernia is a condition that occurs because of weakening of diaphragm. Diaphragm is a flat muscle that exists at the base of lungs. It relaxes and

contracts as an individual breathe in and out. It also contracts during bending, coughing etc. Before entering the stomach, the esophagus passes through the diaphragm via an opening called the diaphragmatic hernia. Weakening of the diaphragm muscle results in a condition called hiatal hernia^{1, 2}. As a result of weakening of diaphragm muscle at hiatus, the stomach can slip pass the diaphragm into the chest region causing a sliding hiatus hernia. The occurrence of GERD is made more likely because of hiatal hernia. A number of lifestyle and dietary factors contribute to GERD. Symptoms of GERD are triggered by consuming fatty foods, coffee, smoking and alcohol. Some of the other common causes of GERD include pregnancy, obesity and smoking.

Symptoms of GERD are

Common symptoms of GERD include nausea and vomiting, burping, stomach fullness or bloating, dry and chronic cough, laryngitis, persistent sore throat, difficult or painful swallowing, upper chest or abdominal pain, bad breath and dental erosion and heartburn, asthma and pneumonia. The common symptoms of acid reflux appear after eating a heavy meal, after lying on back, and trying to lift up a heavy object. In addition to the above listed common symptoms, some of the more severe symptoms of GERD, such as bleeding, bloody stools, choking, painful swallowing, persistent hiccups, hoarseness in mornings, chest pain are indicative of a severe problem and should be reported to physician. Some medications such as beta blockers can worsen GERD symptoms.

Diagnosis of GERD

When common treatment plan and changes to lifestyle show improvement no further diagnosis is carried out. When more severe symptoms of GERD are present or the diagnosis is unclear the health care provide may recommend one of the following tests: Endoscopy, Esophageal manometry, pH monitoring of the esophagus, Upper GI series.

Treatment of GERD

Some of the less severe symptoms of GERD are treated by making changes to lifestyle such as weight loss, quitting of smoking, avoiding acid causing foods, being upright for at least 3-4 hours post meals. In some cases non prescription antacids such as Mylanta, Alka Seltzer, and Maalox may be recommended. However, the OTC antacids can provide only short term relief and are not effective in long term.

Histamine antagonist/ H2 blockers, inhibit the activity of histamine on histamine receptor. This results in decreased production of acid by the parietal stomach cells. These inhibitors of histamine are available OTC and in prescription strength. These agents provide short term relief and also aide in healing of esophageal wall. Some of the H2 blockers include famotidine (Pepcid), Nizatidine (Axid), Ranitidine (Zantac) etc.

PPI, proton pump inhibitors include omeprazole (prilosec), esomeprazole (nexium). Prilosec and Nexium are two of the most widely sold drugs in the world. These drugs irreversibly inhibit or block the hydrogen/potassium ATPase enzyme system also known as the H⁺/K⁺ ATPase in the stomach parietal cells. The proton pump or H⁺/K⁺ ATPase is the last step in gastric acid secretion, making it an attractive target for GERD treatment³.

Severe Complication of GERD:

If the acid reflux is left untreated, GERD can progress to some severe diseases such as ulcers, stricture, barrette's esophagus and esophageal cancer. A very small percent of people diagnosed with GERD progress to barrette's esophagus. An even smaller number of people go on to develop adenocarcinoma of esophagus⁴.

Summary

GERD or Acid reflux disease is the condition where acid refluxes back into the esophagus and mouth from the stomach. Common causes of acid reflux disease include abnormal functioning esophageal sphincter, hiatal hernia. Some common symptoms of ERD include heartburn, nausea, vomiting and can be treated with OTC antacids or prescription H2 blockers and PPI. If left untreated GERD can in some cases progress to barrette's esophagus and esophageal cancer.

References

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