GASTROESOPHAGEAL REFLUX DISEASE (GERD)

Gastroesophageal reflux disease (GERD) or dyspepsia is recurrent or persistent discomfort or pain involving upper abdomen which is characterized by early satiety, postprandial fullness, nausea, and bloating. In Pakistan though hospital-based surveys are showing upto 24% prevalence, actually it is more in general people both in the cities and villages as well due to modernization of life style, food choices and their timings.

Reflex of gastric juices and hiatus hernia are the most common causes. Adults with GERD usually encounter the symptoms after eating a meal, lying on their backs, when bending over or if they are lifting heavy weight things. Symptoms often become very distinct during the night. GERD is very commonly noticed in pregnant women (> 50% experience acid reflux and/or heartburn). If symptoms and reflux episodes occur together < 25% or > 75% of time, causal association is low or high respectively. In symptomatic patients who are using aggressive acid suppressive therapy, demonstration of complete acid suppression clearly indicates that acid reflux is not a major factor, and if acid reflux is still occurring then there is a need of different therapy.

Adults with GERD, may experience any of the symptoms, including heartburn, belching, regurgitation, bad breath (halitosis), nausea, dysphagia, odynophagia (painful swallowing), chest pain, particularly after eating, water brash (increased salivation), reflux esophagitis, peptic stricture in esophagus, Barrett’s esophagus, esophageal carcinoma, abdominal pain, sinusitis, asthma, laryngitis, pharyngitis, sensitive teeth, choking feeling, chronic coughing, and damage to the esophagus itself. The damaged esophagus will begin to scar, may start to become narrow resulting strictures formation, which can lead to dysphagia. If the esophagus is injured even more, it could evolve to Barrett’s esophagus; will cause the esophagus to change in color and shape, and there is a raised risk of cancer too.

Gastroesophageal reflux disease (GERD) is a more crucial form of Gastroesophageal reflux (GER), also called acid regurgitation or acid reflex. Here digestive juices – called acids – go up along with the food commonly. It occurs when the LES relax to open spontaneously, for variable period of time, or does not close properly and contents from the stomach rise up into the esophagus. GER occurs when there is failure of normal anti - reflux mechanism to protect against abnormal frequency and quantity of GER. GER itself is not a disease process but rather a normal physiologic phenomenon, which occurs many times each day, especially after large meals, without making symptoms or mucosal damage. When acid reflux occurs, fluid or food can be tasted in the back part of the mouth. When refluxed stomach acid meets the lining of the esophagus it may result burning sensation in the throat or the chest called acid indigestion or heartburn. Persistent reflux that happens more than twice a week is labeled as GERD, and it can ultimately bring about more serious health problems. People of any age group can suffer GERD. Two factors contribute to mucosal damage i.e., direct toxic injury and prolonged mucosal contact time with gastric acid or pepsin or both.

Esophageal clearance occurs by primary or secondary peristaltic waves. Acid neutralization by swallowed saliva and esophageal mucosal resistance, acid residue at mucosal surface maintains low esophageal pH immediately after peristaltic contractions. Salivary bicarbonate neutralizes mucosal pH in a stepwise fashion in 8 – 10 swallows. Duration of time from reflux event until restoration of normal esophageal pH is the Esophageal Acid Clearance Time. Delayed gastric emptying leads to retention of solid foods, secretion of food - induced acid, gastric distension and LES relaxations. In post – prandial state, possible delayed gastric emptying results in increased esophageal acid contact time.

Drugs may aggravate GER by decreasing LES pressure e.g. beta – agonist, theophylline, anticholinergic, tricyclic anti – depressants, progesterone, diazepam & calcium channel blockers or direct esophageal mucosal injury e.g. tetracycline, quinidine, KCL, iron, NSAIDs, Aspirin, Alendronate. Hiatus hernia is present in 50% patients having > 50 years of age. Endoscopically 80% patients with GERD have hiatus hernia and > 50% patients of hiatus hernia do have GERD. On endoscopy, majority of the patients have no visible damage in the mucosal lining (non-erosive GERD/NERD), whereas others have reflux esophagitis, stricture formation or Barrett’s change in the esophagus. Severe esophageal mucosal disease almost guarantees presence of hiatus hernia and may results in melena, vomiting blood or coffee ground looking material, dysphagia, anemia (low blood count),
unexplained weight loss. Patients with GERD and its complications should be checked carefully by a gastroenterologist. GERD may deteriorate or initiate the chronic cough, asthma, and pulmonary fibrosis.

Anatomical anti-reflux barrier is a fortress, composed of LES, crural diaphragm and phrenoesophageal ligament, regulated at distal end by 2 distinct sphincters, Internal LES can resist upto 90 mmHg pressure and an external LES. Lower Esophageal Sphincter (LES) is a muscular ring lying at the distal end of the esophagus. It acts as a valve between the stomach and the esophagus. Hiatus hernia is the most important factor involved in reducing its strength by decreasing LES pressure, inhibits external LES from assisting internal LES to prevent high-pressured induced GER and hence increasing frequency of GER, impairing esophageal clearance of refluxed acid and provoking duodenal-gastric reflux, though tobacco and NSAIDs do contribute. Surgical restoration of anatomical arrangements improves and heals esophagitis without increasing LES pressure. Known foods that can aggravate reflux symptoms include, chocolate, citrus fruits, onion and garlic, drinks with alcohol or caffeine, fatty and fried foods, tomato – based foods, spaghetti sauce, mint flavoring/spicy foods, salsa, pizza and chili.

Lifestyle changes are important in relieving GERD symptoms like, if patient smokes, ask and convince to stop, lose weight if desired, avoid beverages and foods that worsen symptoms, eat dry, small, and frequent meals, do not lay down for 3 hours since after last meal, always wear loose clothes, elevate the head end of the bed approximately 6 to 8 inches by placing wooden blocks under the bed pillars, just using additional pillows will not be helpful.

Foaming agents, for example Gaviscon, act by covering the contents in the stomach with foam to prevent reflux. Anti-histamine (H2 blockers), like famotidine, cimetidine ranitidine, and nizatidine provide short-term relief by decreasing acid production and are effective for about half of these patients with GERD. Proton pump inhibitors (PPI) including pantoprazole, omeprazole, rabeprazole, lansoprazole, esomeprazole, and dexlansoprazole are more potent than H2 blockers and can provide more symptoms relief and settle the esophageal lining in almost everyone who has GERD. Prokinetics including metoclopramide and bethanechol, makes the LES strengthen and make the stomach empty faster, which also improves muscle action in the digestive tract. Prokinetics have multiple adverse effects that bound their helpfulness – sleepiness, fatigue, anxiety, depression and problems related with physical movement.

If the symptoms do not settle with lifestyle changes or medications, then additional testing may be required, where barium swallow radiograph can detect abnormalities like hiatal hernia and other anatomical or physical problems of the esophagus but will not perceive mild irritation, although strictures or ulcers of the esophagus can be detected. Upper GI endoscopy is more precise than a barium swallow radiograph. pH monitoring examination for 24 to 48 hours while patient does routine activities, the device measures how much and when acid comes up into the esophagus. This test can be more fruitful if combined with a cautiously completed diary - recording including when, and what amounts eaten - which allows seeing associations between symptoms and reflux episodes. The procedure is sometimes useful in describing that whether respiratory complaints, including coughing and wheezing, are triggered by reflux.

Surgery is an option when lifestyle changes as well as medicine do not help to treat GERD symptoms. Fundoplication is the recommended surgical treatment option for GERD i.e., Nissen fundoplication.

REFERENCES