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A review: Current trends in the management of GERD

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Abstract

Many people around us are suffering from GERD, which is a life style disorder became a common problem widely seen in the society. Medical therapies give symptomatic relief and maintain remission. Complications are mostly prevented by advanced diagnostic and therapeutic modalities then also it leads to many complications like esophageal strictures, barrett esophagus and many others. Here we are trying to explain a brief clinical approach about GERD. *Ayurveda* have its own treatment modalities in GERD condition. *Nidana parivarjana* can manage the condition through *Ahara, Vihara* and *Manasika bhavas*.

Keywords: GERD, Amlapitta

Introduction

- A condition which develops when the reflux of stomach content causes troublesome [1] or complications to esophagus or It is a pathological reflux from the stomach into the lower esophagus [2].
- GERD may be associated with hiatus hernia, which may be mixed hernia with both sliding and rolling (paraseophageal) hernia or either sliding or rolling hernia alone [3].
- The most common symptoms are Heartburn, Epigastric discomfort and Regurgitation, which is called triads of GERD, often become worse by stooping and lying [4].
- In the normal subject during waking hours and in erect posture gastric juices may enter the esophagus in only 20 minutes per day. This occurs during distension of the stomach

Belching and burping. In the supine position the intraluminal pressure of lower esophagus sphincter rises and reduces any chance of reflux during this position [5].

Epidemiology

- 40% of people around us is suffering from heartburn atleast for 1 month in their life time.
- 10-15% suffer daily.
- All ages suffer but incidence is more in above 40 years.
- Increased in Asian countries.
- GERD common in men and women.
- Adenocarcinoma more common in white males.

Anatomy of Esophagus [6]

The abdominal part of esophagus is only about 1.25 cm long. oesophagus is a hollow muscular tube which begins at the lower edge of cricoid cartilage C6 vertebrae and ends at esophagogastric junction ie T12 vertebrae. it lies anterior to vertebral column and posterior to the trachea. it is lined by squamous epithelium throughout the length except the last 3 cm which is lined by columnar epithelium.

Arterial Supply [7]

- Inferior thyroid artery
- Esophageal branches of aorta
- Gastric arteries

- Inferior phrenic arteries

Venous and Nervous Drainage ^[8]

- Inferior thyroid vein
- Coronary vein
- Brachiocephalic vein
- Splenic vein
- Left hemiazygos vein
- Inferior phrenic nerve
- Azygous vein

Lymphatic Drainage ^[9]

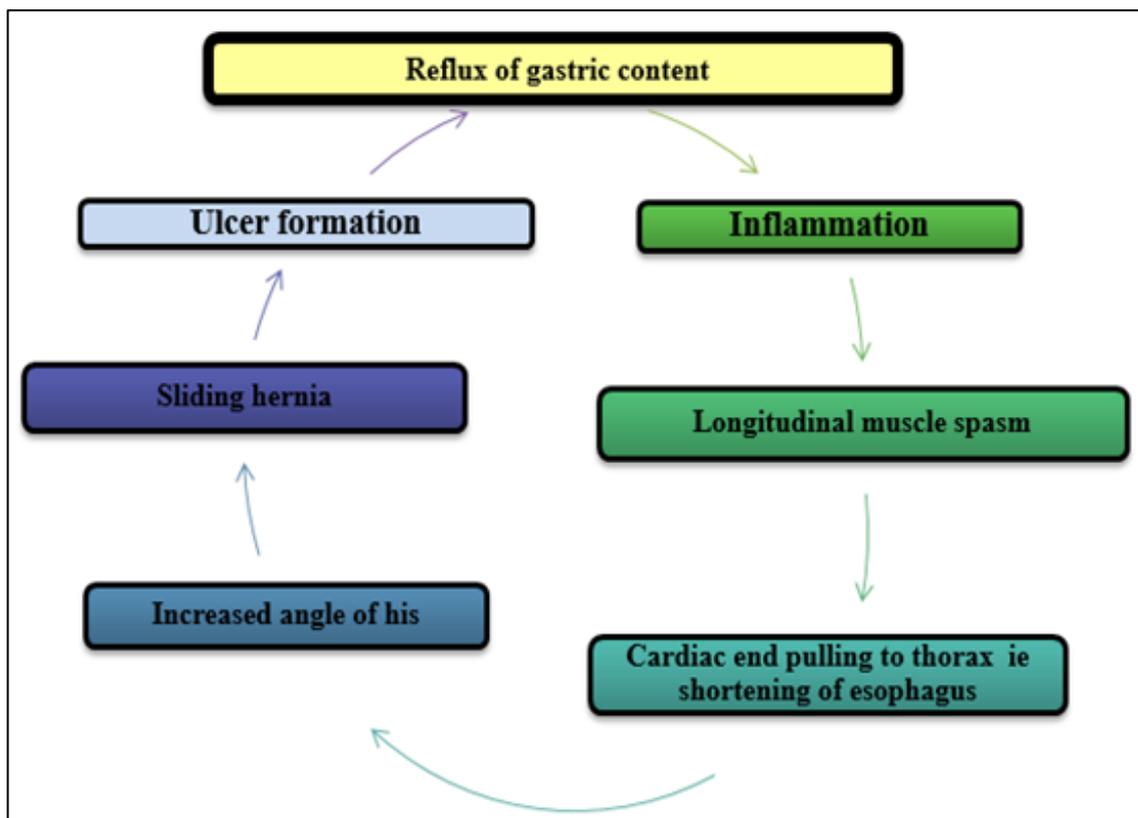
- Lymphatic arrangement in esophagus is longitudinal and so spread of carcinoma to distant lymph node occurs early. Lymphatic arrangement in esophagus is longitudinal and so spread of carcinoma to distant lymph node occurs early.

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LES {Lower Esophageal Sphincter} ^[10]

- It is a high physiological pressure zone located in the lower end of the esophagus in terminal 4 cm with a pressure of 10-25 mm Hg.
- LES prevents reflux of gastric and duodenal contents.
- It is influenced by food, gastric distension, gastric pathology, smoking, GI hormones, alcohol.
- Pathological reflux or GERD can occur due to decreased LES tone.

Pathophysiology

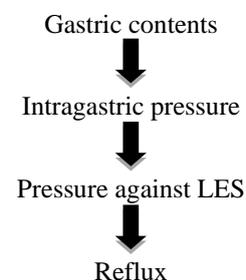


- Primary barrier to gastro-esophageal reflux is the lower esophageal sphincter.
- LES normally works in conjunction with the diaphragm.
- If barrier disrupted, acid goes from stomach to esophagus.

Dysfunction Les

Three dominant mechanism of GE junction incompetence

- 1) Transient LES relaxation (vasovagal reflex) most common mechanism.
- 2) Reduced LES pressure.
Decreases LES pressure
Diet- Fat, Chocolate, Onion, Soda, Milk products, Citrus juice, Tobacco, Alcohol etc.
Drugs- Theophylline, Nitrates, Ca channel blocker, Anticholinergic, Oral contraceptives, Estrogen etc
- 3) Anatomic distortion of junction– Hiatus hernia
- 4) Delayed gastric emptying



Factors That Causes Gerd ^[11]

Anatomical Factors

- Altered length of intra abdominal esophagus.
- Alteration of phreno-esophageal ligament.
- Altered obliquity of O-G junction.
- Reduced pinching action of right crus of diaphragm.
- Alteration in normal mucosal rosette at O-G junction.

Physiological Factor

- Reduced LES pressure.
- Altered transient relaxation period in LES.
- Reduced esophageal clearance mechanism.
- Delayed gastric emptying due to Diabetes, Neuromuscular block, Gastroparesis, Medications.
- Increased gastric distension and Gastric hyper secretion.

Other Factors

Diet: Caffeine, Fatty and spicy foods, Chocolate, Coffee, Tea, Dairy products, Citrus, Alcohol, Peppermint

Positions: Bending, Straining Etc

External Pressure: Pregnancy, Tight Clothing, Obesity, Stress, Lifestyle, Smoking Etc

Classification ^[12]**Classification I**

- Symptomatic uncomplicated GERD (NERD- non erosive reflux disease)
- Symptomatic, complicated GERD

Classification II

- Primary-incompetent LES
- Secondary-Due to surgery/disease

Classification III

- GERD with sliding hernia
- GERD without sliding hernia

Symptoms of Gerd ^[13]**Esophageal**

- Heartburn(pyrosis)
- Regurgitation
- Fatty dyspepsia
- Water bash
- Belching
- Dysphagia
- Odynophagia
- Haematemesis

Extraesophageal

- Chronic Cough
- Wheezing
- Shortness of breathe
- Hoarseness
- Sore throat
- Globus sensation
- Epigastric sensation
- Non cardiac chest pain (NCCP)_

Gerd Complications**Esophageal complication**

- Reflux esophagitis
- Esophageal stricture
- Barrett's esophagus
- Barrett's ulcer

Extraesophageal complication

- Pulmonary manifestation
- Ent manifestation

Reflux Esophagitis ^[14]

- Most common complication of GERD.

- Occur in approximately 50% of patients.
- Left untreated –ulcers, bleeding and stricture formation.

Esophageal Stricture

- Narrowing of the distal esophagus because of long – term chronic acid induced inflammation.
- Typically short and less than 1 cm in length.
- If they are longer other causes, should be sought.
- Further evidence of esophagitis is often seen proximal to the stricture.

Barrett's Esophagus ^[15]

- It is also called columnar lined esophagus (CLO).
- It is a metaplastic change in the lining mucosa of the esophagus in response to chronic esophageal reflux.
- Damaged area heals in a metaplastic process and abnormal columnar cells replace squamous cells.
- This specialised intestinal metaplasia can progress to dysplasia and adenocarcinoma.
- If the length of metaplasia is more than 3cm on Esophago-gastro-duodenoscopy it called Barrett's esophagus.

Barrett's Ulcer ^[16]

- Barrett's ulcer is an ulcer in columnar epithelium lined barrett's esophagus at or just above the squamo-columnar junction.
- It is more prone to
 - Bleeding
 - Perforation
 - Adenocarcinoma of esophagus

**Extraesophageal (Atypical) Symptoms
Pulmonary Manifestations****1) Chronic Cough**

D is one of the most common cause along with PND and brochial asthma

- Predominantly day time and in standing position.
- Non productive and long standing nature and more than 50% cases are sole manifestation.

Chest X-RAY – No radiological evidences

- 2) Bronchial Asthma.
- 3) Pneumonia.
- 4) Chronic Bronchitis.
- 5) Chronic Obstructive Pulmonary Disease.
- 6) Idiopathic Pulmonary Fibrosis.

Ent manifestation**1) Reflux laryngitis**

- Gastric Contents From The Stomach Enters In Larynx, Pharynx And Upper Aerodigestive Tract.
- Mucosal Damage.
- Direct Effect On Mucocilliary Cleareance.
- Vagally mediated reflex.
- 4-10% GERD.

Symptoms

- Hoarsness
- Globus sensation.
- Chronic throat clearing, Vocal fatigue, break.
- Sore throat.
- Neck pain.
- Excessive throat mucus.
- PND.

- 2) Recurrent Otitis Media.
- 3) Chronic Sinusitis.
- 4) Dental Erosions.

Diagnostic Test For Gerd

1. Endoscopy
2. Ambulatory Ph- Monitoring
3. Impedence Ph- Monitoring
4. Esophageal Manometry

Treatment

Medical therapy

1) Antacids

- Quick but short lived relief.
- Neutralize HCL acid.
- Approximately 1/3 patients with heartburn-related symptoms use at least twice weekly.
- Example: gelucil

2) Histamine H2- Receptor Antagonists

- More effective than antacids for relieving heartburn in patients with GERD.
- Faster healing of erosive esophagitis.
- Can use regularly or on advice.
- Example: Cimetadine, famotidine

3) Proton- Pump Inhibitors

- Better control of symptoms with PPIs and better remission rates.
- Faster healing of erosive esophagitis.
- Example: Esomeroprazole, Omeprazole.

Surgical therapy

Indication

- When symptoms are not controlled by vigorous medical treatment.
- Ulceration and stricture formation.
- High grade dysphagia or metaplasia to columnar epithelium.
- If GERD associated with sliding hernia.

Ayurvedic Correlation- Amlapitta ^[17]

Gerd symptoms	Ayurvedic symptoms ^[7]
▪ Indigestion	▪ अविपाक
▪ Belching	▪ तिक्ताम्लोद्गर
▪ Regurgitation and heartburn	▪ हृत्कण्ठदाह
▪ Haematemesis	▪ अरुचि
	▪ वान्तं

Medications Most Commonly Given

- *Guduchyadi kashayam.*
- *Drakshadi kashayam*
- *Kamaduga with mouktika.*
- *Sankha vati*
- *Sutasekara rasa.*
- *Amlapittahara loham.*
- *Avipattikara Choorna*
- *Tikthaka ghritam*

Do's and Don't in GERD

Do's

- Intake of easily digestible food.

- Intake of small frequent meal.
- Food intake in correct time.
- Yava, amalaki.
- Rice gruel, wheat, barley.
- Green leafy vegetables.
- Lie in head raised supine position.
- Exercise, meditation etc.

Don't's

- Avoid stress.
- Avoid coffee, tea.
- Avoid heavy food items.
- Avoid hot, fried and spicy food.
- Avoid alcohol, smoking.
- Avoid skipping meals, hotel food.
- Avoid pain killers, steroids etc.

Conclusion

- GERD occurs when content of stomach frequently flows back into the esophagus normally during waking hours and the erect posture gastric juices may enter. This backward reflux can irritate the lining of the esophagus.
- Life style changes and over the counter medications can decrease the severity of GERD and can prevent it from complications. But some people with GERD may use stronger medications or surgery to ease symptoms.
- Healthy food habits, daily routine and exercise etc, life style can prevent the occurrence of GERD
- According to *Ayurveda Pittaprakopa nidana* like *Ahara, Vihara, Manasika hetus* is the main aetiopathogenesis of GERD.
- *Madhura Vipaka* and *Ushna Veerya* drug can be given. *Pathya* and *Nidana Parivarjana* also plays an important role in the management of GERD.

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