



**Dr abbas Hamad**  
**pulmonologist**



## المحاضرة 11 – المرحلة الثانية الطب الباطني – تقنيات التخدير

Gastrointestinal conditions

# GERD

- **1-GERD**

- Gastro-esophageal reflux disease (GERD), also known as reflux esophagitis, and commonly called heartburn. Symptoms of heartburn are caused when there **is reflux of gastric contents**, particularly acid, into the esophagus, which irritate the mucosal surface.

- 

- **Patient assessment with GERD**

- **1-Signs and symptoms**

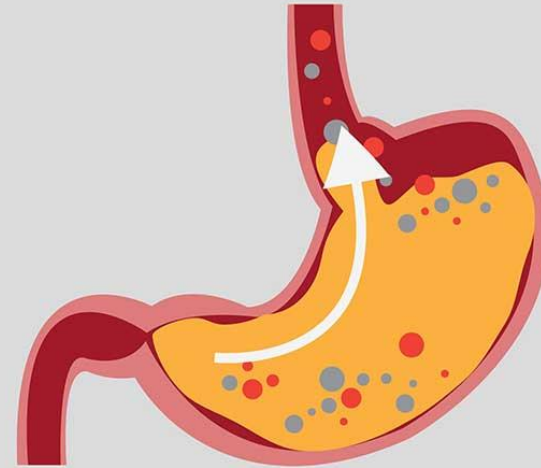
The typical symptom of GERD is heartburn which is described as:

**A burning sensation** or pain experienced in the upper part of the stomach

- The burning feeling tends to move upwards may be felt right up to the throat causing an acid taste in the mouth.

-

# Gastroesophageal Reflux Disease, GERD



- **2-Precipitating or aggravating factors.**
- Diagnosis of GERD can be helped greatly by asking about the Precipitating factors. These are :
  - A-Bending or lying down.(patients should be instructed to make gap between meal and bed about 4 hours)
  - B-Overweight (weight reduction highly recommended)
  - C-After large meal (small and frequent meals recommended)
  - D-Pregnancy (antacid may be helpful)
  -

- **3-Severity and location of pain:**

Patient who have **severe\_pain** should be referred as well as pain that radiate to the back and arm (possible angina attack)

- **4-Difficulty in swallowing and regurgitation:**

- The sensation that food sticks and does not seem to pass directly into the stomach (**dysphagia**) is an indication for immediate referral. (It may be due to obstruction of the esophagus for e.g. by tumor)

- **Regurgitation** can be associated with difficulty in swallowing. It occurs when recently eaten food sticks in the esophagus and is regurgitated without passing into the stomach.

- **5-Age:**

Heartburn is not normally experienced in childhood; therefore, **children** with symptoms of heartburn should be referred for further investigations

## 6-Medication: To know:

### Medication Risk Factors

#### Reduction of LES Pressure

Anticholinergics  
Barbiturates  
Caffeine  
Dihydropyridine calcium  
channel blockers  
Dopamine  
Estrogen, progesterone  
Nicotine  
Nitrates  
Tetracycline  
Theophylline

#### Direct Irritation

Alendronate  
Aspirin  
Iron  
NSAIDs  
Potassium chloride  
Quinidine

*LES: lower esophageal sphincter; NSAID: nonsteroidal anti-inflammatory drug.*

- **Summary of Symptoms and circumstances for referral** <sup>(2)</sup>

- 1-Failure to respond to antacids

- 2-Pain radiating to arms

- 3-Difficulty in swallowing

- 4-Regurgitation

- 5-Long duration

- 6-Increasing severity

- 7-Children

-



- **Management:**
- **Non-pharmacological advices:**
- 1-Eat small and frequent meals
- 2-The evening meal is best taken several hours before going to bed.
- 3-Use extra pillow to elevate the head of the bed.
- 4-Do not wears tight fitting clothing.
- 5-Avoid smoking, alcohol, caffeine and foods that exacerbate symptoms of GERD
- 6-Weight reduction should be advised
- 
- **Pharmacological therapy:**
- **A-Antacids (AL salts, Mg salts, Ca-carbonate, Na-bicarbonate):**

- **2-Dosage forms:**

- **suspensions** are more effective than tablets (of the same type and quantity) (because the acid neutralizing capacity and speed of onset is greater than tablet).
- \*Patient should be instructed to chew the tablets thoroughly followed by a full glass of water to ensure maximum therapeutic effect.

- **3-Interactions:**

- **A**-Antacids can affect the **absorption of a number of drugs** (via chelation and adsorption) and the majority of these interactions are easily overcome by leaving a minimum gap of (1-2) hours between the doses of each drug<sup>(4)</sup>.
- **B**-Antacids increase the PH of the stomach cause a premature release of enteric coated tablets or granules in the stomach rather than the intestine the target site for disintegration.

- **4-Use of antacids during pregnancy:**

Heartburn is common during the pregnancy especially in the 3<sup>rd</sup> trimester.

Antacids are generally considered safe during pregnancy but its **best to avoid sod. Bicarbonate** because of the risk of sodium loading leading to edema and weight gain

- **5-Side effects of antacids**
- **A-** AL-containing antacids tend to be **constipating**
- Mg-containing antacids tend to cause osmotic **diarrhea** and are useful in patients who are slightly constipated. Thus **combination** products of AL and Mg salts cause minimum bowel disturbances.
- **B-** Antacids containing sod. Bicarbonate should be avoided in patients if sodium intake should be restricted (e.g. in patient with CHF, hypertension).
- **C-** Calcium carbonate: It acts quickly, has a prolonged action and is a potent neutralizer of acid. It can cause **acid rebound** and, if taken over long periods at high doses, can cause **hypercalcaemia** and so should **not be recommended for long-term use**.

- **B-Alginates( Gaviscon ®):**
- Alginate-containing Antacids form a **sponge –like matrix** that float on the top of the stomach contents , so when reflux occurs , alginate rather than acids will be refluxed and irritation is minimized . Some alginate-based products contain sodium bicarbonate. If a preparation low in sodium is required, the pharmacist can recommend one containing potassium bicarbonate instead. Alginate products with low sodium content are useful for the treatment of heartburn in patients on a restricted sodium diet.
- **Practical points:**
- 1-They are best given **after each main meal and before bedtime**. Although it may be taken on when-needed basis.
- 2-Tablets must be chewed and followed by full glass of water so that foam can float on water in the stomach .
- 3-They can be given in pregnancy.

- **C-Histamine 2 receptor antagonists (H2RA):**
- **1-The patients:** they can be used for the short-term treatment of dyspepsia, hyperacidity and heartburn in **adults and children over 16 years**
- 2-They **cannot** be given (as an OTC) to **pregnant** women
- **3-When to take H2RA (regarding OTC use for GERD only):**
- OTC doses of H2RA is limited to no more than two doses times a day. Patient can take 1 tablet when symptoms occur and if the symptoms persists, another tablet may be repeated after more than 1hour, but when food is known to precipitate symptoms, H2RA should be taken an hour before food.
- 
- **4-Duration for OTC H2RA:** Treatment with **OTC H2RA** is limited to a maximum of 2 weeks.
- 
- **5-Side effects of H2RA:** Headache, dizziness, diarrhea and skin rashes have been reported as adverse effects but they are not common.
-

- **D-Proton pump inhibitors (PPIs):**
- 1- PPIs are amongst the most effective medicines for the relief of heartburn. PPIs available are **Omeprazole, Rabeprazole, Lansoprazole, and Esomeprazole**
- 2- PPIs should not be taken (**as an OTC**) during **pregnancy** or whilst **breastfeeding**.
- 
- 3- Their duration of action is longer, but the time to onset is longer compared with, antacids, and H<sub>2</sub>RAs. It may take 1 to 4 days to achieve full symptom relief. During this period a patient with ongoing symptoms may need to take a concomitant **antacid**.
- 4-Treatment with OTC PPIs is limited to a maximum of **4 weeks**.
- 
- 
- 
- 
- 
- 
- 
- 
-

thanks