Heart burn

Heart burn also known as GERD or reflux esophagitis

Symptoms caused when there is reflux of gastric content's, particularly acid, into the esophagus. Unlike the stomach lining , the esophageal mucosa has no protection against gastric acid & readily irritated by acid.

Patient assessment:

1- Signs & Symptoms

Patient describes pain as burning discomfort felt in upper part of the stomach (in the lower chest mainly in the midline (epigastrium)

The burning felling tend to passing up wards behind the breast bone (retrosternal خلف القص).

Careful questioning by the pharmacist can distinguish conditions which are more serious.

2- precipitating or aggravating factors

1- bending or lying down (e.g. at night)

2- Over weight.

3- After large meal.

3- Severity & location of pain

Patient with sever pain should referred. Also a sharp pain or stabbing pain can mimic a heart attack & argent medical referral is essential because it is unlikely due to dyspepsia specially if the pain radiated to other area like left arm (Keep in mind that not all patient with ischemic heart disease (IHD) have this classic pain).

4) Age: Heartburn is not normally experienced in childhood, so any child with symptoms of heart burn should be referred for further investigation.

5) Pregnancy:

Half of pregnant women suffer from heart burn caused by increase in intra abdominal pressure also hormonal influence particularly progesterone usually begin in mid to late pregnancy.

6) Difficulty in swallowing & regurgitation:

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

Regurgitation can be associated with difficulty in swallowing. It occurs when recently eaten food sticks in the esophagus & is regurgitated without passing into stomach. This is due to mechanical blockage in the esophagus------ referral

7) Medications: Any medication that cause gastric irritation can provoke GI discomfort like Aspirin, NSAIDs, Ca blocker, (Nifidipin), nitrates, theophyllin, caffeine, TCA, Macrolide, metronidazol, ACE inhibitor, iron, estrogen & alcohol in excess.

8)Social history& habit:

Like eating food too quickly, stress, person job...etc

When to refer:

1- failure to respond to antiacid.
2- Pain radiating to arm.
3- Difficulty in swallowing & regurgitation.
4-Long duration.
5-Increasing severity.
6-Children.

Management

Antacids: Used to naturalized gastric acidity, efficacy varies according to the metal salt used, its solubility which effect there onset and duration of action.

Sodium and potassium salt are the most highly soluble so make a quick but short action. Magnesium and Aluminum salt are the less soluble, so have a slower onset but greater duration of action. Calcium quick onset & prolong action.

The rational for combining different salts:

A combination of tow or more antacid ingredient is to ensure quick onset (sodium bicarbonate) and to prolong the action (aluminum, magnesium or calcium). Also the combination help to minimize any SE experienced from the product (magnesium cause diarrhoea, aluminum cause constipation).

Practical point

• Any antacid preparation high in sodium content should be avoided in patient with sodium restricted diet like patient with chronic heart failure (CHF) or kidney or liver problem. Long time intake of Calicum antacid cause hypercalcemia.

•Antacid can affect the absorption of a number of medications via **chelation** and **adsorption** like: tetracycline, quinolone, imidazole, and phenytion. So you have to leave a minimum gap of one hour between the respective doses of each .

• In general best time for taking antacid are after food by 1 hour because gastric emptying is slowed by food thus antiacids remain in the stomach for prolonged time ---act for 3 hrs.

Taking it on an empty stomach rapidly emptied from stomach i.e., short duration of action <1hrs.

Dosage form:

Antacid suspensions are more effective & more quickly work than tablets of same type & quantity.

- Patient should chew the tablets followed by a full glass of water to ensure maximum effect.
- Antacid generally safe in pregnancy but best avoid the sod. bicarbonate because of the risk of sodium loading leading to edema & weight gain.

Alginates:

It forms a raft (sponge like matrix) which sits on the surface of the stomach contents and prevents reflux.

Alginate usually present in combination with sodium bicarbonate. The function of bicarbonate in addition to antacid action is to release carbon dioxide gas in stomach enabling the raft to float on top of stomach content.

Best given after each main meal and before bedtime. Tablet must be chewed followed by a full glass of water so that foam can float on water in stomach. If a low sod. intake is required , give pot. bicarbonate instate. Alginate is safe in pregnancy

H2- receptor antagonist:

Famotidine & Ranitidine used for short term treatment up to 2 weeks for dyspepsia, hyperacidity and heart burn in adult & children over 16 years.

- As OTC , H2- receptor antagonist can be taken as I tablet when symptoms of GERD occur, for a duration of 2 week as maximum for ranitidin and 6 days for famotidine.
- They can not be given for pregnant woman as an OTC.

- **Proton pump inhibitors:**
- Omeprazole can be used for heartburn in adult over 18 years , It may take a day or so to be fully effective , during which the patient may need to take a concomitant antacids.
- The tablets should be swallowed with plenty fluid prior to meals & should not chewed. Treatment time scale as OTC limited to a maximum of 4 weeks.& should not repeated more than every 4 months.
- Omeprazole not recommended for pregnant woman & during breast feeding.

Indigestion

Indigestion or dyspepsia can be self diagnosed by the patient. Many patients use the term's dyspepsia & heart burn interchangeably . However heartburn should not be confused with dyspepsia.

- Dyspepsia as a term refers to a group of upper abdominal symptom's that arise from 5 main conditions:
- 1- Non-ulcer dyspepsia (indigestion).
- 2- Reflux.
- 3- Gastritis.
- 4- Duodenal ulcer.
- 5- Gastric ulcers.

Clinical features of dyspepsia:.

1- Vague abdominal discomfort.

2- Aching above umbilicus.

3- Bloating & Flatulence.

4- A felling of fullness.

5- pain is generally not burning in nature.

Significance of questions & answer

1) Age: Dyspepsia is rare in children------ Refer.

Young adults are likely to suffer from dyspepsia with no specific pathological condition. Unlike patient age 50 years & up in whom a specific pathological condition are common.

2) Location & Nature of discomfort: In dyspepsia, pain is described as aching or discomfort above the umbilicus & centrally. Discomfort may be brought on by particular foods, excess food, or medication like asprin. Sever or prolong indigestion in patient taking NSAID ---- Refer

3-Duration & previous history :

Persistent or recurrent indigestion should be referred .

Any patient with previous history of symptoms not responded to treatment or worsened should be referred.

4) Associated symptoms: Persistent vomiting with or with out blood is suggestive of ulceration or could even be cancer that should referred.

5) Aggravating or reliving factors: Pain aggravated by food indicates gastric ulcer. Pain relived by food indicate duodenal ulcer.

Circumstances for referral

1- Age over 45 years if symptoms develop for first time.

2- Symptoms are persistent longer than 5 days or recurrent.

3- Pain is so sever.

4- Blood in vomit or stool.

5- Pain worsen on effort.

6- Persistent vomiting.

7- Failed treatment.

8- Adverse drug reaction.

9- associated weight loss.

10- Children.

11-Indigestion between meals or at night.

- **Management**
- **1-Antacids :** As GERD
- 2- **Famotidine** & Ranitdine As GERD
- **Dimeticone** (Dimethicone)
- Sometimes added to antacid formulations for its defoaming properties. Theoretically it reduces surface tension & allows easier elimination of gas from the gut by passing flatus or bleching .

- **Domperidone**
- Used for treatment of postprandial stomach symptoms of excessive fullness, nausea, epigastric bloating & bleching, occasionally accompanied by epigastric discomfort & heartburn.
- It increase the rate of gastric emptying and also increase the strength of contraction of oseophageal sphincter. Used for patient aged 16 years & over.