



**APPROACH TO
DYSPEPSIA AND
GASTRITIS**

**Dr Andrew CHUA
MB BcH BAO MRCP MD
Fellow of ROME**

THE
BOSTON MEDICAL AND SURGICAL
JOURNAL.

VOL. X.]

WEDNESDAY, JULY 23, 1834.

[NO. 24.]

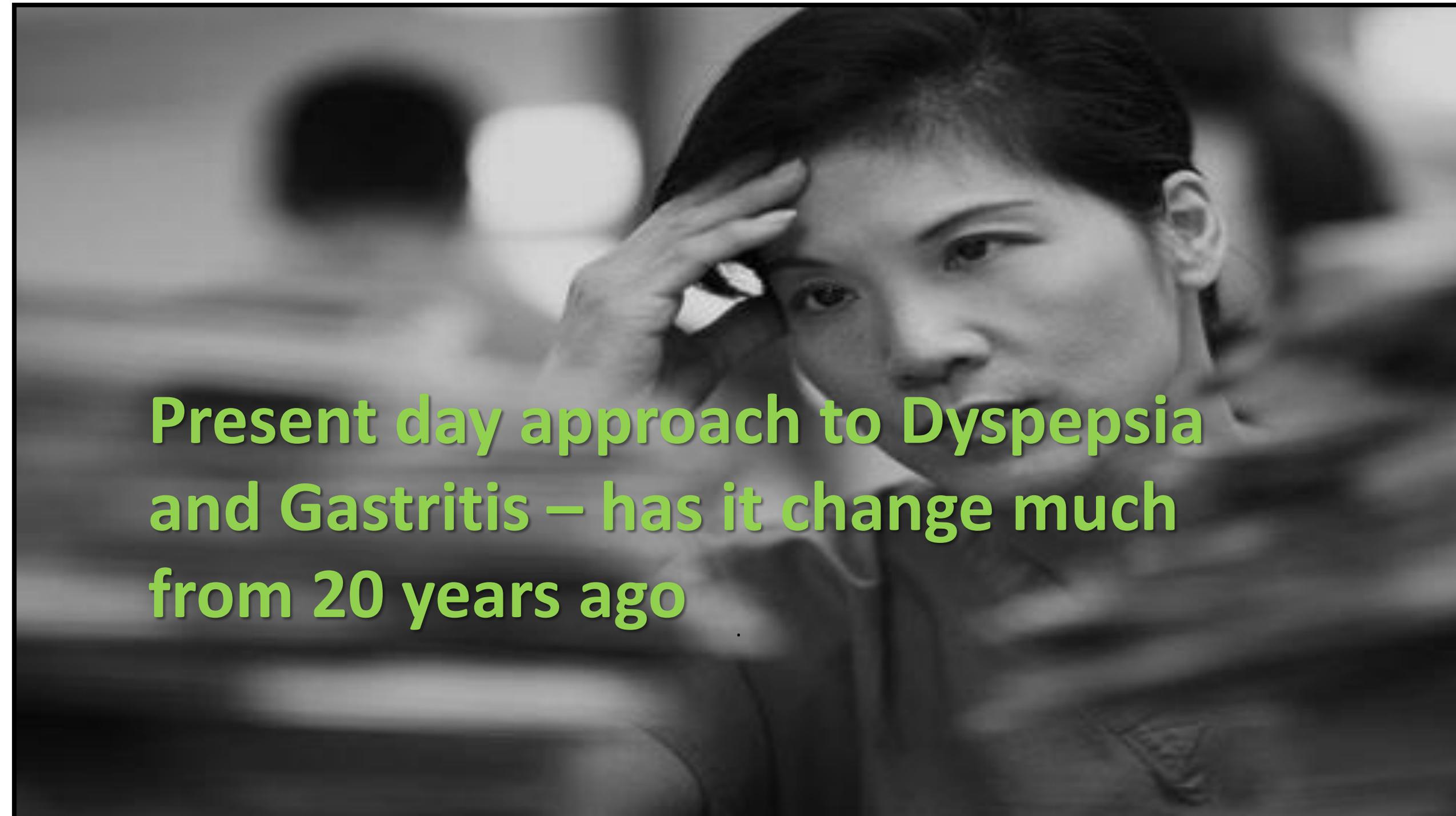
CHRONIC GASTRITIS AND DYSPEPSIA.

BY DR. STORES.

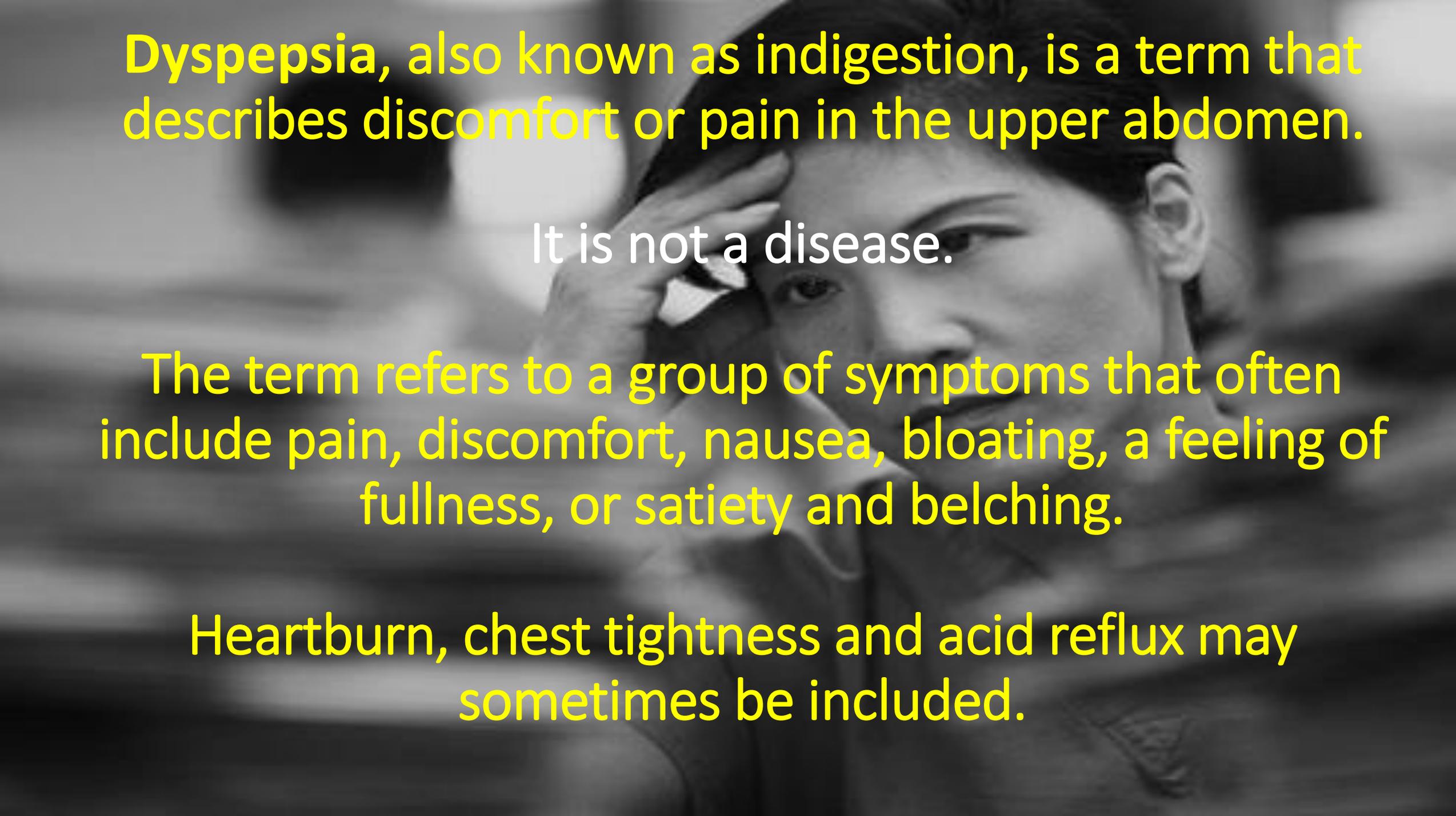
WE come now to consider chronic gastritis, an extremely interesting disease, whether we look upon it with reference to its importance, its frequency, or its Protean character. It is commonly called dyspepsia, and this term, loose and unlimited in its acceptation, often proves a stumbling block to the student in medicine. Dyspepsia, you know, means difficult digestion, a circumstance which may depend on many causes, but perhaps on none more frequently than upon chronic gastritis. In the great majority of dyspeptic cases, the exciting cause has been over-stimulation of the stomach, either from the constant excess in strong highly-seasoned meats, or indulging in the use of exciting liquors. Persons, who feed grossly and drink deeply, are generally the subjects of dyspepsia; by constantly stimulating the stomach they produce an inflammatory condition of that organ. Long-continued functional lesion will eventually produce more or less organic disease; and you will find, that in most cases of old dyspepsia there is more or less gastritis. But let us go farther, and inquire whether these views are borne out by the ordinary treatment of dyspeptic cases. When you open a book on the practice of physic, and turn to the article dyspepsia, one of the first things which strikes you is the vast number of cures for indigestion. The more incurable a disease is, and the less we know of its treatment, the more numerous is the list of remedies, and the more empirical is its treatment. Now the circumstance of having a great variety of "cures" for a disease, is a strong proof, either that there is no real remedy for it, or that its nature is very little understood. A patient afflicted with dyspepsia will generally run through a variety of treatment; he will be ordered bark by one practitioner, mercury by another, purgatives by a third—in fact, he will be subjected to every form of treatment. Now all this is proof positive that the disease is not sufficiently understood. What does pathology teach in such cases? In almost every instance where patients have died with symptoms of dyspepsia, pathological anatomy proves the stomach to be in a state of demonstrable disease. It appears, therefore, that, whether we look to the uncertainty and vacillations of treatment, or the results of anatomical examination, the case is still the same; and that where dyspepsia has been of considerable duration, the chance is that there is more or less of organic disease, and that, if we prescribe for dyspepsia neglecting this, we are very likely to do mischief. I do not wish you to believe that every case of dyspepsia is a case of gastritis. This opinion has brought disgrace on the school of Broussais. His

WE come now to consider **chronic gastritis**, an extremely interesting disease, whether we look upon it with reference to its importance, its frequency, or its Protean character. **It is commonly called dyspepsia**, and this term, loose and unlimited in its acceptation, often proves a stumbling block to the student in medicine. **Dyspepsia**, you know, means **difficult digestion**, a circumstance which may depend on many causes, but perhaps on none more frequently than upon chronic gastritis. In the great majority of dyspeptic cases, the exciting cause has been **overstimulation of the stomach**, either from the constant excess in strong highly-seasoned **meats**, or indulging in the use of **exciting liquors**. Persons, who feed grossly and drink deeply, are generally the subjects of dyspepsia ; by constantly stimulating the stomach they produce an inflammatory condition of that organ. **Long-continued functional lesion will eventually produce more or less organic disease** ; and you will find, that in most cases of old dyspepsia there is more or less gastritis. But let us go farther, and inquire whether these views are borne out by the ordinary treatment of dyspeptic cases. When you open a book on the practice of physic, and turn to the article dyspepsia, one of the first things which strikes you is the **vast number of cures for indigestion**. **The more incurable a disease is, and the less we know of its treatment, the more numerous is the list of remedies, and the more empirical is its treatment**. Now the circumstance of having **a great variety of "cures"** for a disease,

is a strong proof, either that there is no real remedy for it, or that its nature is very little understood. A patient afflicted with dyspepsia will generally run through a variety of treatment ; he will be ordered bark by one practitioner, mercury by another, purgatives by a third—in fact, he will be subjected to every form of treatment. Now all this is proof positive that the disease is not sufficiently understood. What does pathology teach in such cases ? In almost every instance where patients have died with symptoms of dyspepsia, pathological anatomy proves the stomach to be in a state of demonstrable disease. It appears, therefore, that, whether we look to the uncertainty and vacillations of treatment, or the results of anatomical examination, the case is still the same ; and that where dyspepsia has been of considerable duration, the chance is that there is more or less of organic disease, and that, if we prescribe for dyspepsia neglecting this, we are very likely to do mischief. I do not wish you to believe that every case of dyspepsia is a case of gastritis. This opinion has brought disgrace on the school of Broussais. His

A black and white photograph of a woman with dark hair, looking slightly to the right with a thoughtful or distressed expression. Her right hand is raised to her forehead, with fingers spread. The background is blurred, showing other people in a crowd.

**Present day approach to Dyspepsia
and Gastritis – has it change much
from 20 years ago**

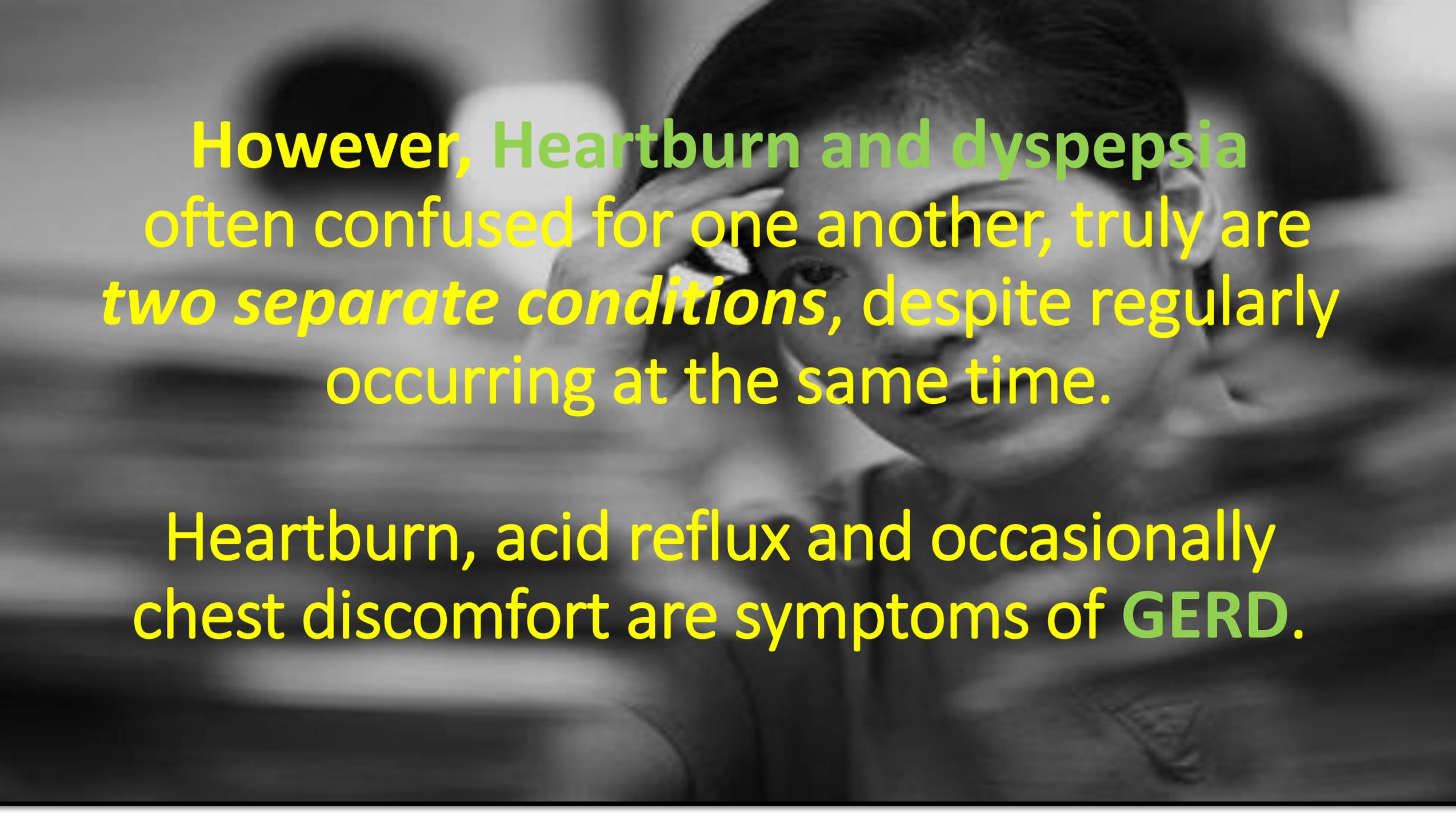


Dyspepsia, also known as indigestion, is a term that describes discomfort or pain in the upper abdomen.

It is not a disease.

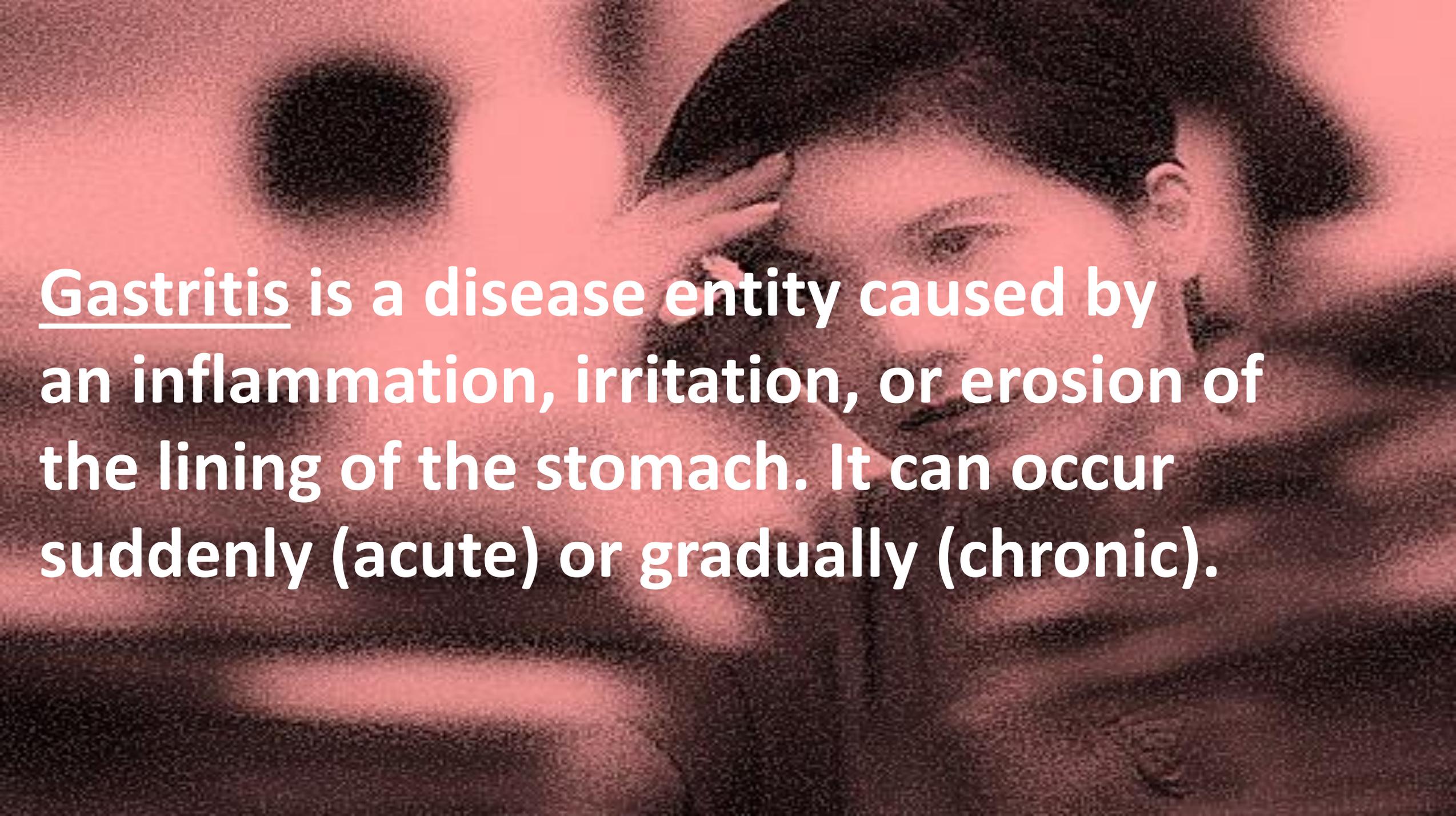
The term refers to a group of symptoms that often include pain, discomfort, nausea, bloating, a feeling of fullness, or satiety and belching.

Heartburn, chest tightness and acid reflux may sometimes be included.

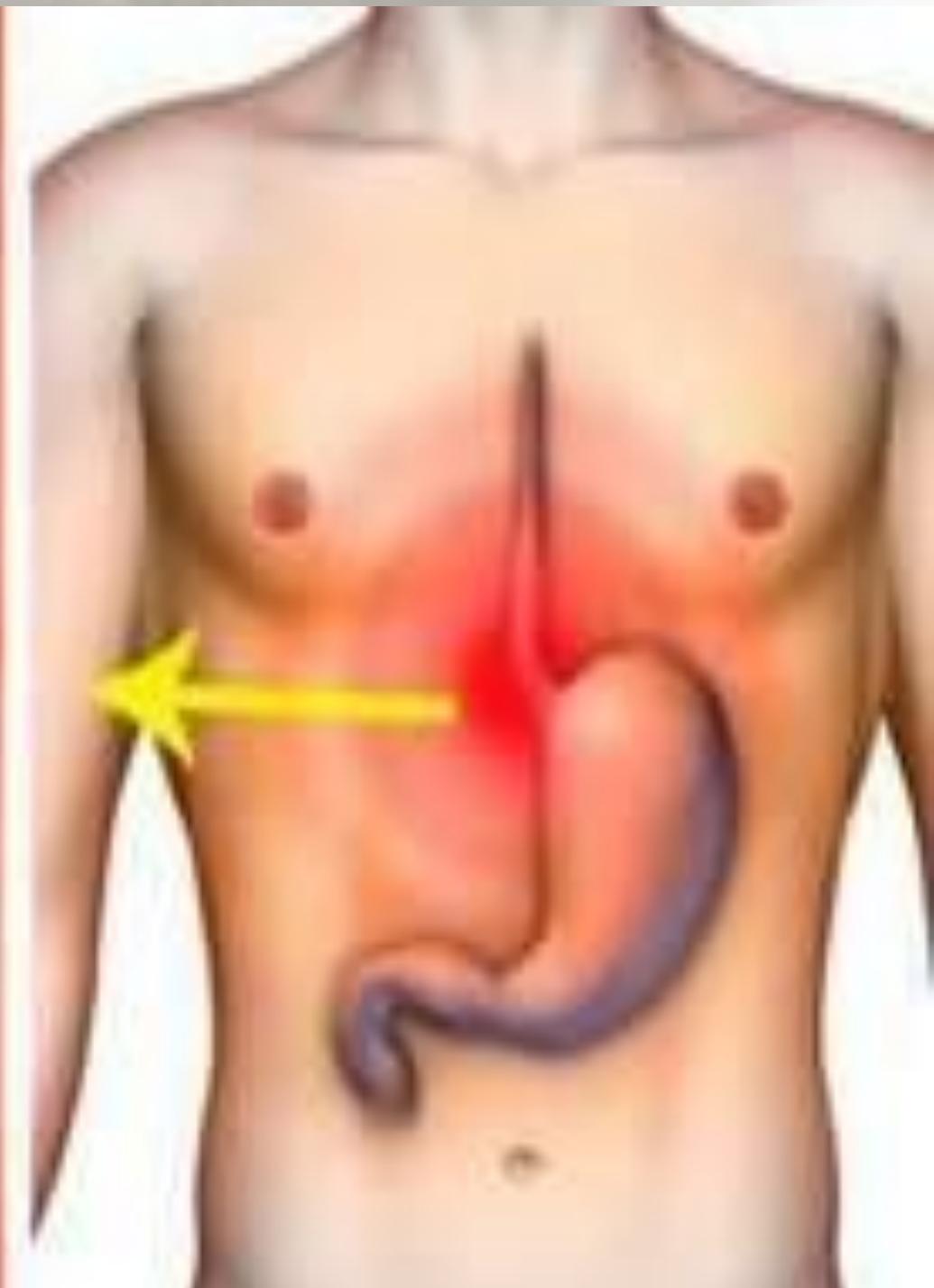
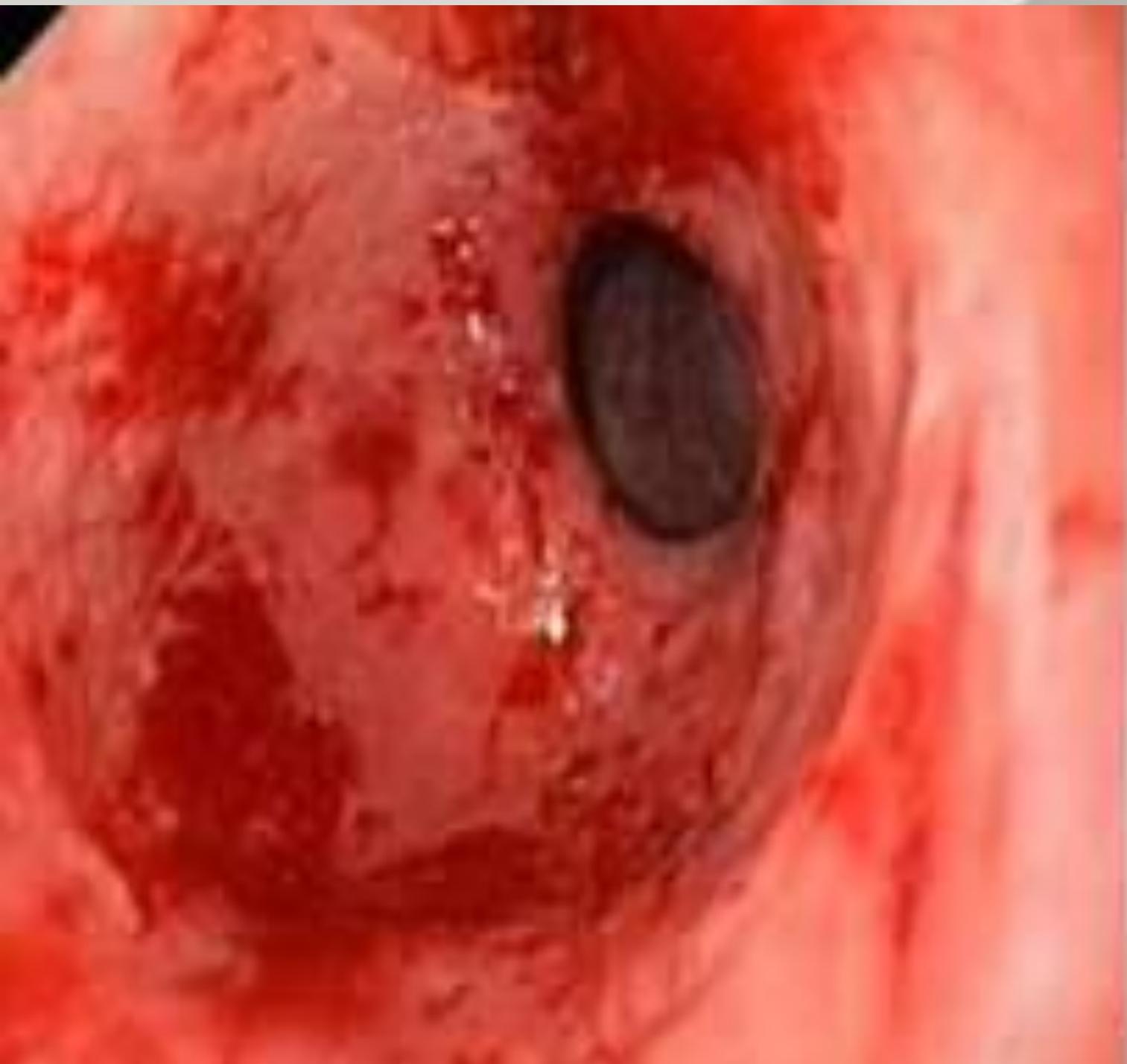


However, Heartburn and dyspepsia
often confused for one another, truly are
two separate conditions, despite regularly
occurring at the same time.

Heartburn, acid reflux and occasionally
chest discomfort are symptoms of **GERD**.



Gastritis is a disease entity caused by an inflammation, irritation, or erosion of the lining of the stomach. It can occur suddenly (acute) or gradually (chronic).



What Are the Symptoms of Gastritis?

Symptoms of gastritis vary among individuals, and in many people there are no symptoms.

However, the most common symptoms include:

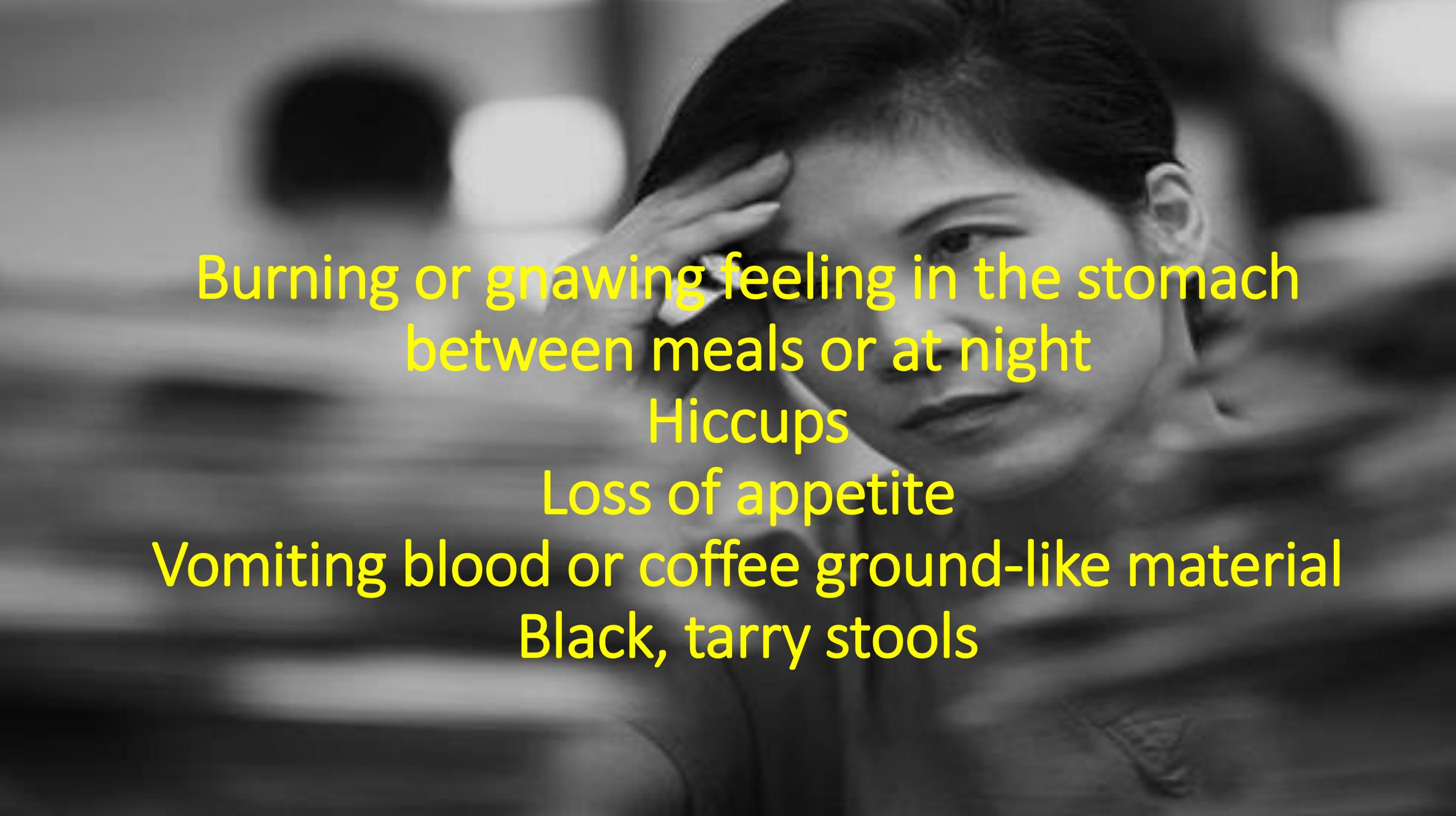
Nausea or recurrent upset stomach

Abdominal bloating

Abdominal pain

Vomiting

Indigestion



Burning or gnawing feeling in the stomach
between meals or at night

Hiccups

Loss of appetite

Vomiting blood or coffee ground-like material

Black, tarry stools

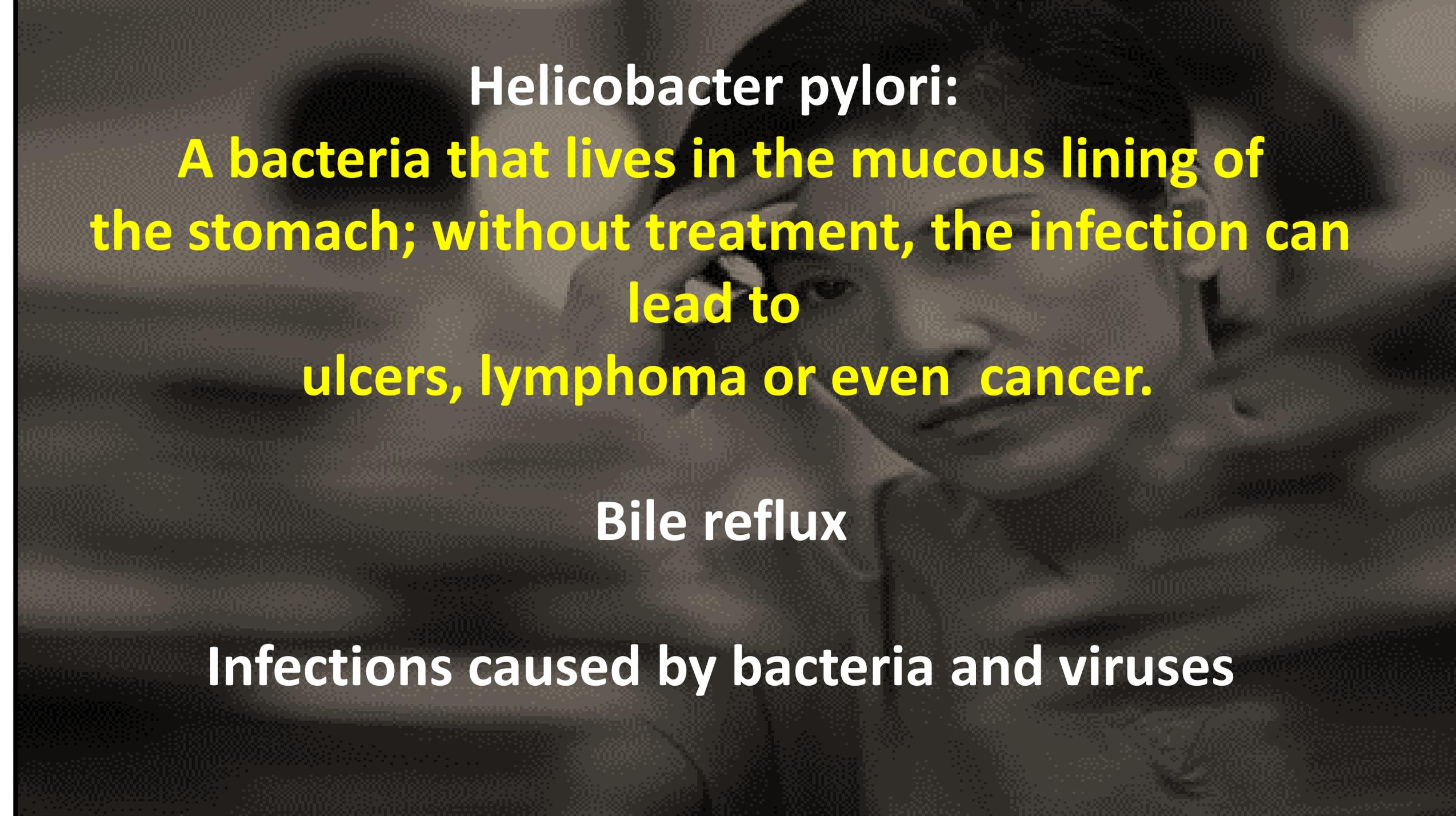
What Causes Gastritis?

Gastritis can be caused by irritation due to excessive alcohol use, stress,

autoimmune gastritis,

certain medications such as aspirin or other anti-inflammatory drugs,

It may also be caused by any of the following:

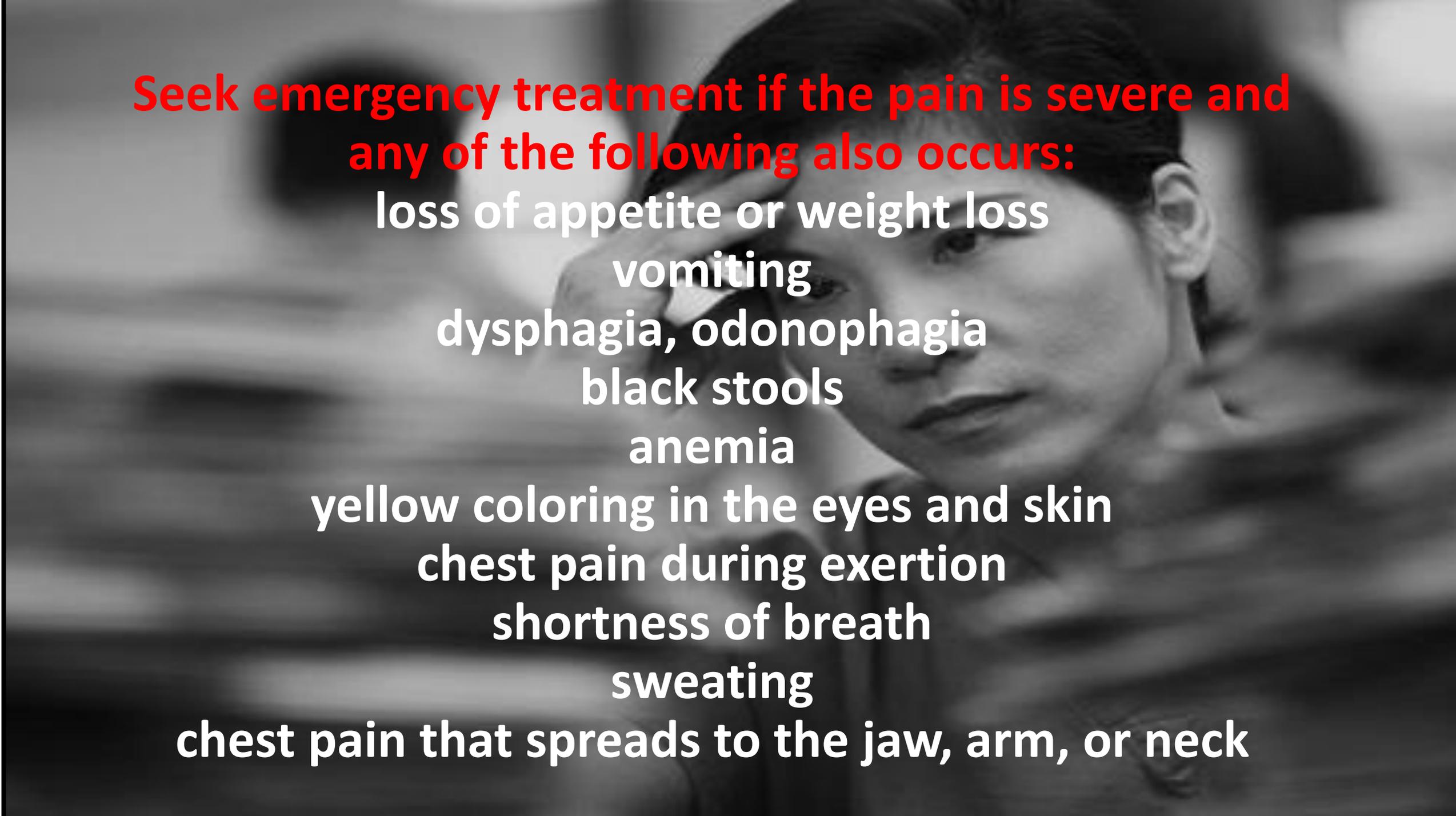


Helicobacter pylori:

A bacteria that lives in the mucous lining of the stomach; without treatment, the infection can lead to ulcers, lymphoma or even cancer.

Bile reflux

Infections caused by bacteria and viruses



Seek emergency treatment if the pain is severe and any of the following also occurs:

loss of appetite or weight loss

vomiting

dysphagia, odonophagia

black stools

anemia

yellow coloring in the eyes and skin

chest pain during exertion

shortness of breath

sweating

chest pain that spreads to the jaw, arm, or neck



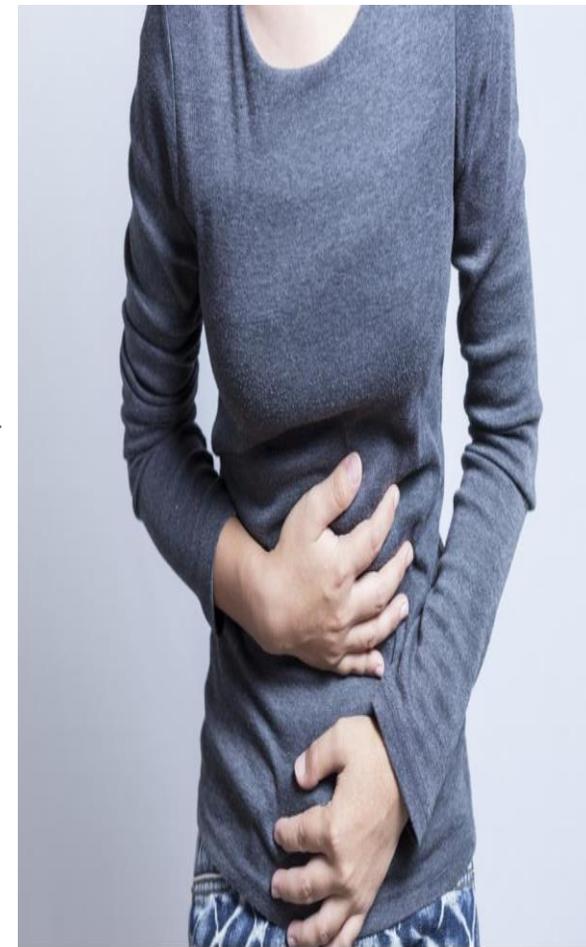
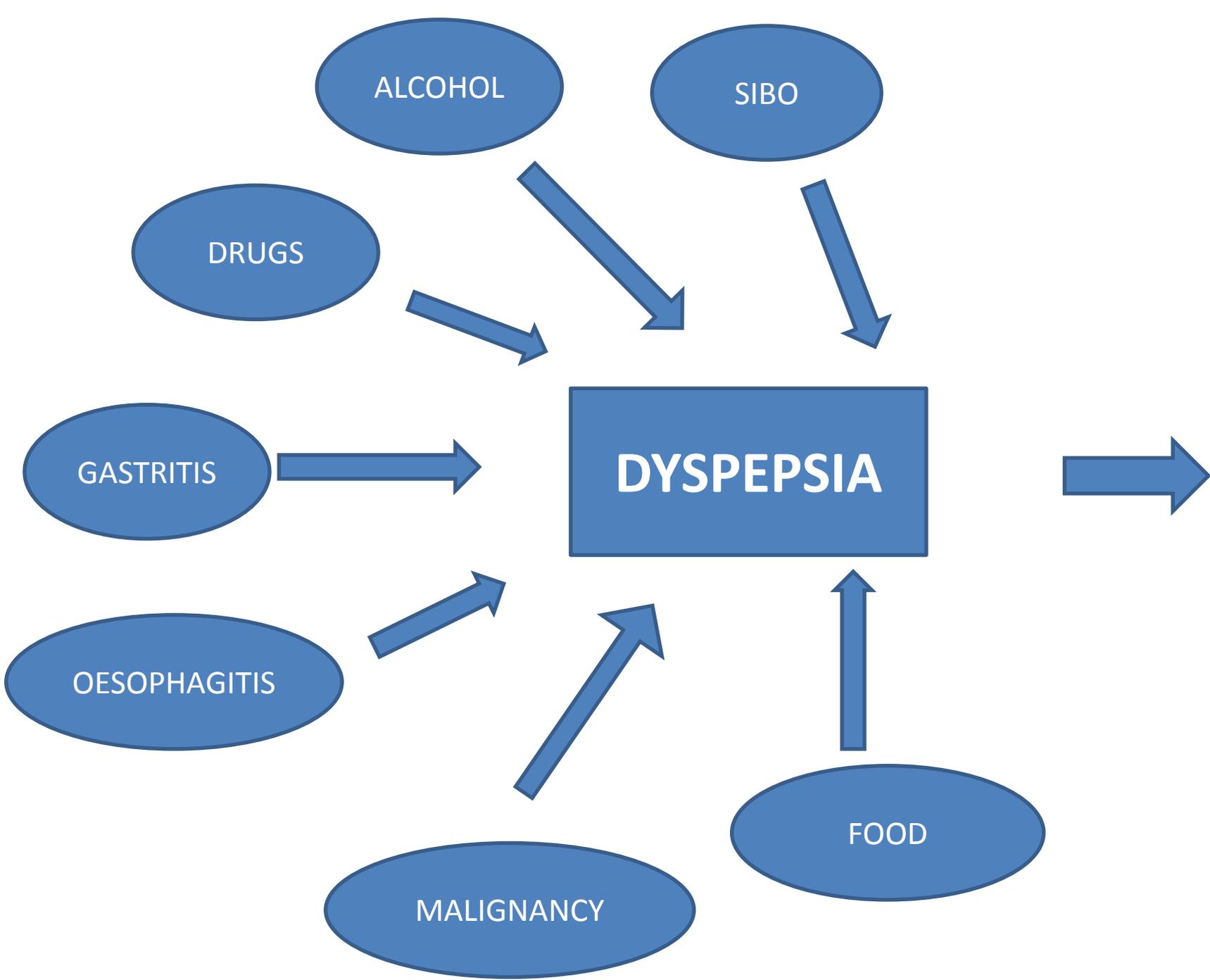
Approach to Dyspepsia



ORGANIC

Combination

Functional





Approach to Functional dyspepsia

Unique in that there is a paucity of clinical signs, diagnoses depends on the presence of characteristic symptoms clusters.

FUNCTIONAL DYSPEPSIA

At least 20% of the population experience chronic symptoms attributed to gastroduodenal function disorder. In the majority of cases, however, there is no evidence of organic causes

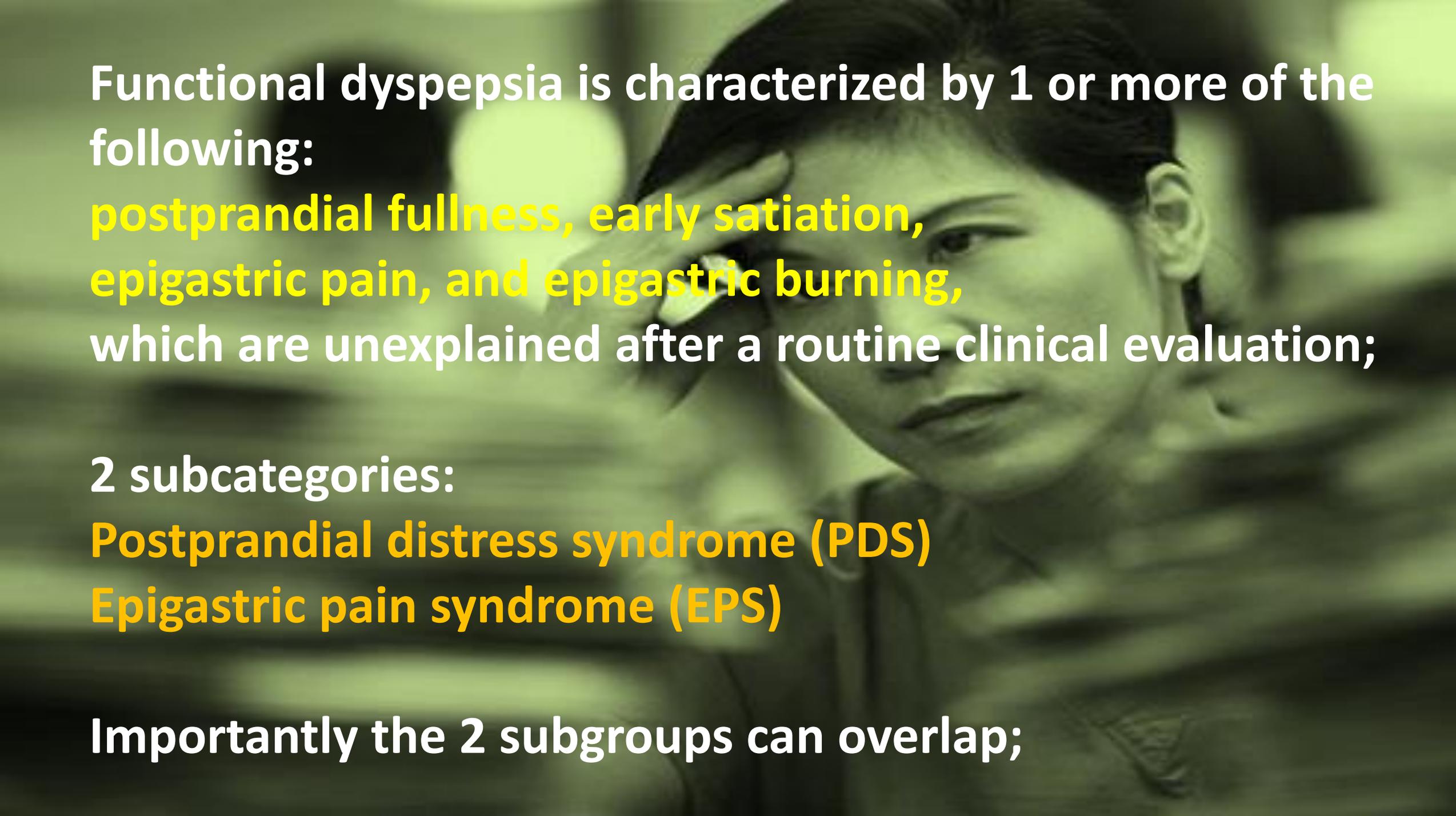
Functional gastroduodenal disorder categories:

B1: **Functional Dyspepsia (FD)**

B2: Belching disorders

B3: Chronic nausea and vomiting disorders

B4: Rumination Syndrome



Functional dyspepsia is characterized by 1 or more of the following:

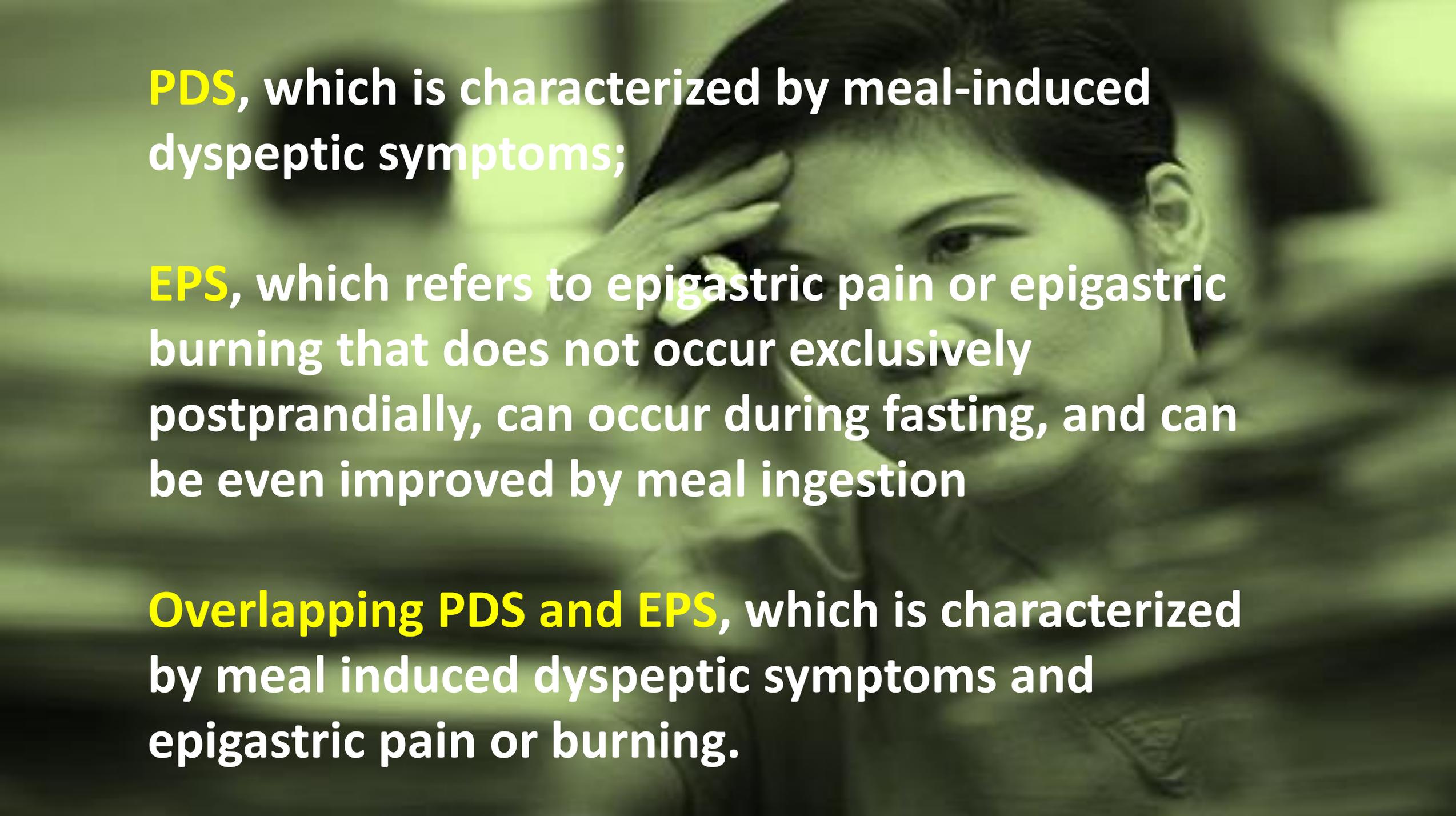
postprandial fullness, early satiation, epigastric pain, and epigastric burning, which are unexplained after a routine clinical evaluation;

2 subcategories:

Postprandial distress syndrome (PDS)

Epigastric pain syndrome (EPS)

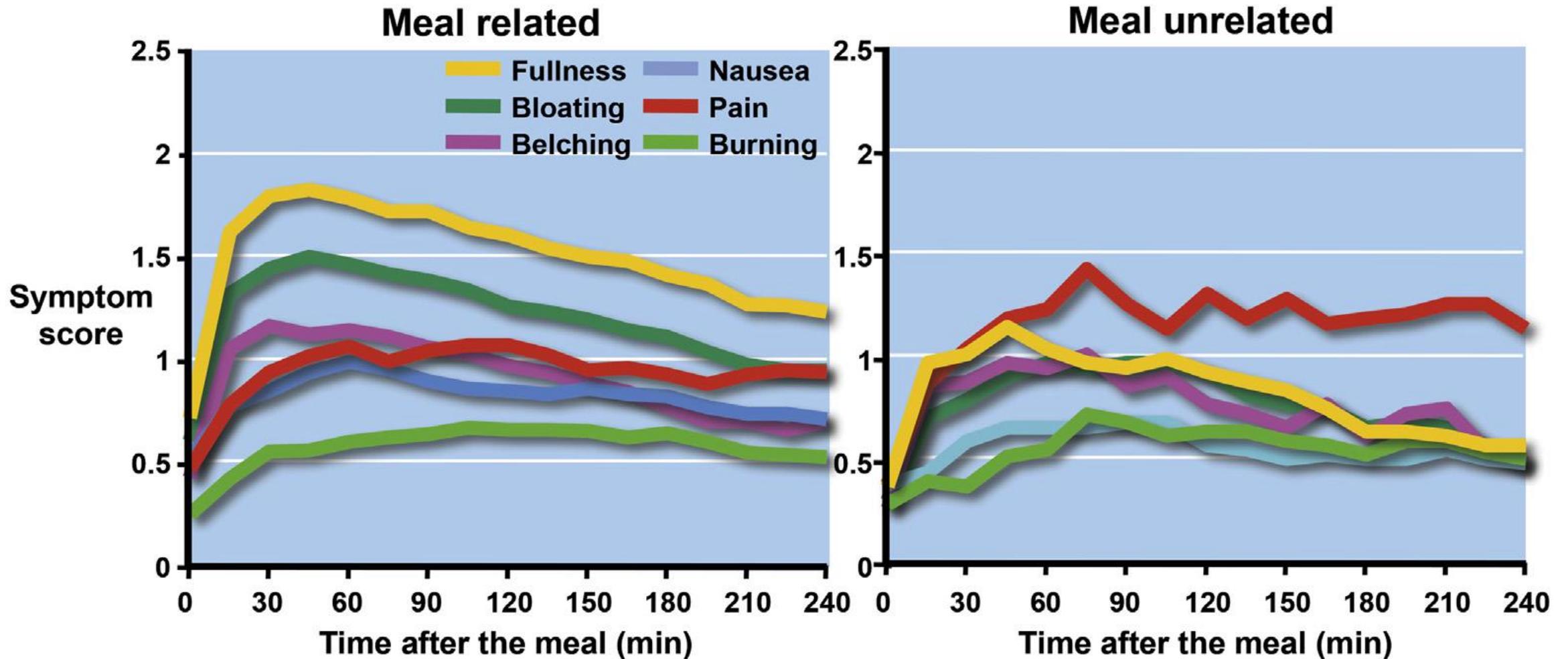
Importantly the 2 subgroups can overlap;

A woman with dark hair is shown from the chest up, holding her right hand to her forehead in a gesture of pain or distress. The image has a green tint and is overlaid with white text. The text describes three types of dyspepsia: PDS, EPS, and overlapping PDS and EPS.

PDS, which is characterized by meal-induced dyspeptic symptoms;

EPS, which refers to epigastric pain or epigastric burning that does not occur exclusively postprandially, can occur during fasting, and can be even improved by meal ingestion

Overlapping PDS and EPS, which is characterized by meal induced dyspeptic symptoms and epigastric pain or burning.



Test meal 60 g white bread, egg, 300 ml water consumed within 10 min
 (250 kcal: 14 g protein, 26 g carbohydrate, 10 g fat)

Postprandial symptom severity in 218 patients with functional dyspepsia.
 Symptoms were defined as meal related if their severity increased within 30
 minutes after meal ingestion

B1a. Postprandial Distress Syndrome

Diagnostic criteria

Must include one or both of the following at least 3 days per week .

- 1. Bothersome postprandial fullness (ie, severe enough to impact on usual activities)**
- 2. Bothersome early satiation (ie, severe enough to prevent finishing a regular-size meal)**

Criteria fulfilled for the last 3 months with symptom onset at least 6 months before diagnosis.

B1b. Epigastric Pain Syndrome

Diagnostic criteria

Must include at least 1 of the following symptoms at least 1 day a week:

1. Bothering epigastric pain (ie, severe enough to impact on usual activities)

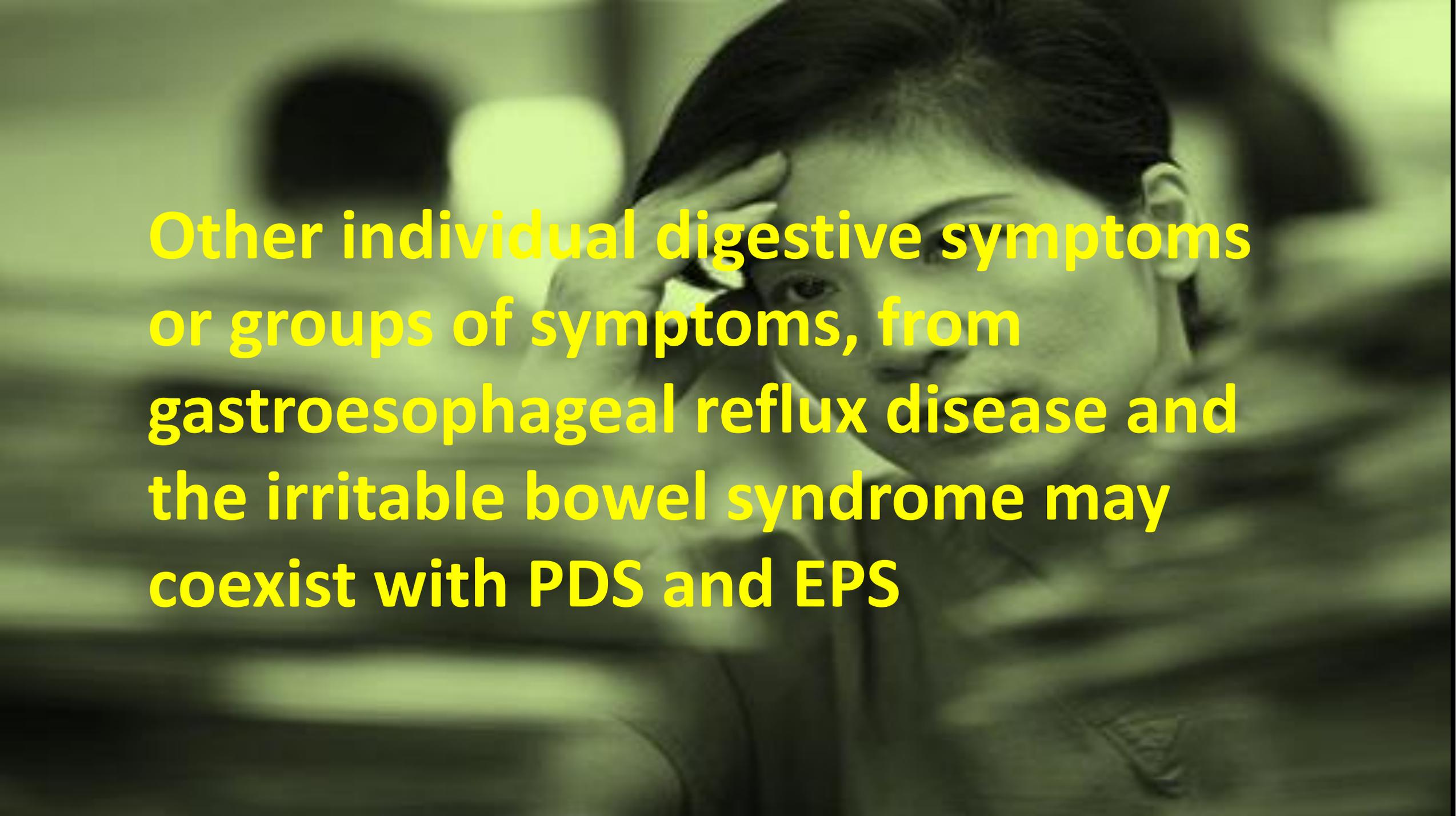
AND/OR

2. Bothering epigastric burning (ie, severe enough to impact on usual activities)

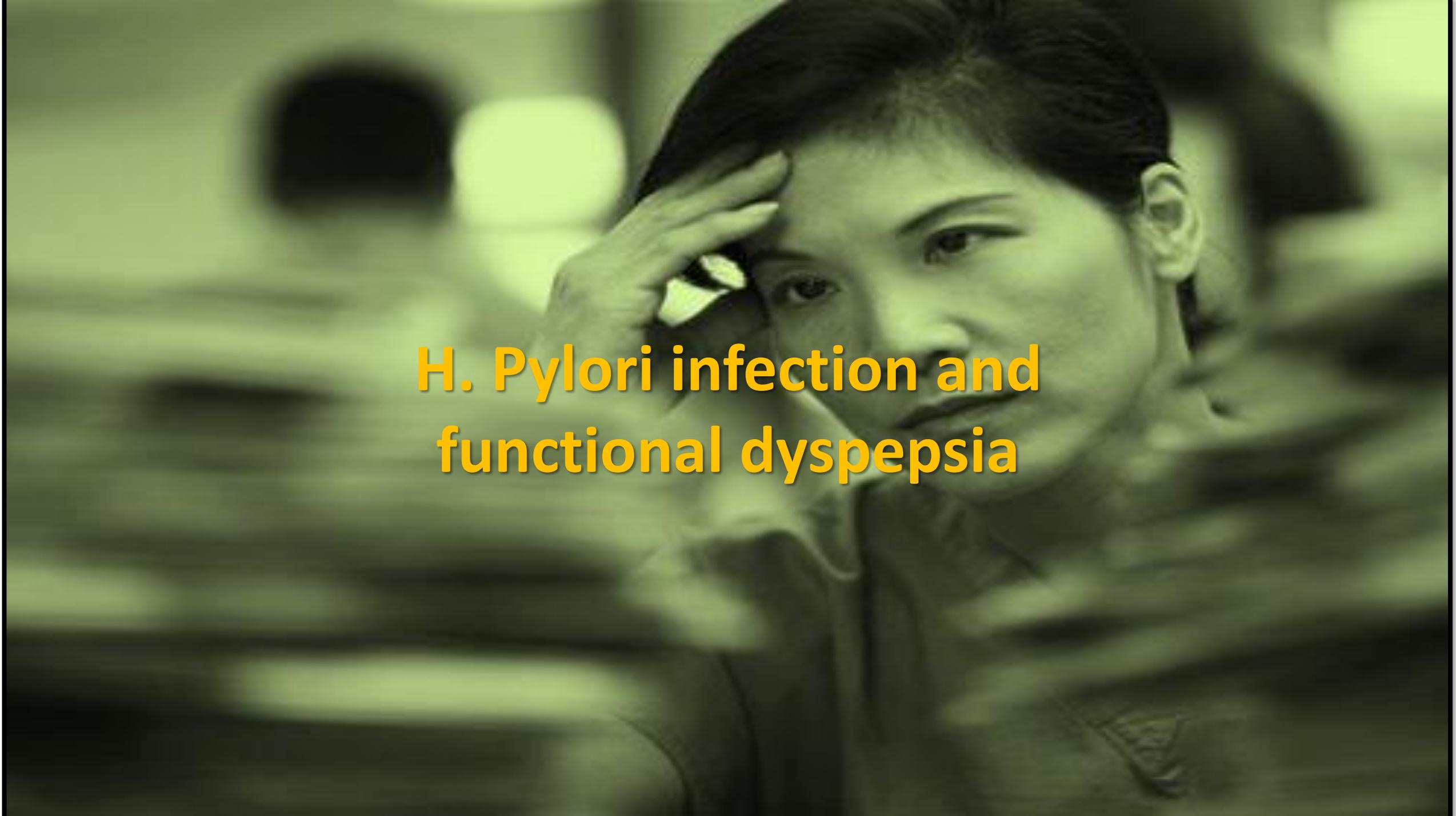
Criteria fulfilled for the last 3 months with symptom onset at least 6 months before diagnosis

Supportive remarks

- " Postprandial epigastric pain or burning, epigastric bloating, excessive belching, and nausea can also be present
- " **Vomiting warrants consideration of another disorder**
- " **Heartburn is not a dyspeptic symptom but may often coexist**
- " Symptoms that are relieved by evacuation of feces or gas should generally not be considered as part of dyspepsia

A woman with dark hair is shown in profile, holding her right hand to her forehead in a gesture of pain or distress. The image is overlaid with a semi-transparent green filter. The text is written in a bold, yellow, sans-serif font across the center of the image.

Other individual digestive symptoms or groups of symptoms, from gastroesophageal reflux disease and the irritable bowel syndrome may coexist with PDS and EPS

A woman with dark hair is shown in a close-up, looking slightly to the right with a thoughtful or distressed expression. Her right hand is raised to her forehead. The background is blurred, showing what appears to be a public space with other people. The entire image has a greenish-yellow tint.

H. Pylori infection and functional dyspepsia

- ***H. pylori* infection causes definite microscopic and/or macroscopic changes in the gastric mucosa with its consequence on alterations in gastric physiologies.**
- *H. pylori* strains predominant in North Eastern Asia are more virulent than other parts of the world, and together with life-style factors, frequently cause severe phenotypes such as atrophy, intestinal metaplasia leading to gastric cancer.
- These mucosal changes are obvious even with conventional endoscopic examinations.

- **Helicobacter pylori infection is known as the main cause of chronic gastritis.**
- The prevalence of H. pylori infection in FD reported to be around 40-70%,.
- H. pylori induced chronic gastric inflammation has been proposed as one of the causal factors of FD.
- Successful H. pylori eradication improved the QOL of FD patients, especially H. pylori-positive patients with ulcer-like FD or dysmotility-like FD from a study in Japan.
- A study from Singapore demonstrated a 13-fold increased chance of FD symptom resolution if H. pylori is successfully eradicated in FD patients.

H. pylori eradication: Maastricht IV recommendations

- Statement 3 in Maastricht IV:

H.pylori eradication produces long-term relief of dyspepsia in 1 of 12 patients with H.pylori; this is better than any other treatment (Evidence level 1a; Grade of recommendation: A)

Malfertheiner P. et al. Gut 2012; 61: 646-664

- **Several articles suggested that H. pylori-positive FD could be considered as an organic disease and a different disease entity from FD.**
- In a Korean study, H. pylori eradication was the only important factor in the FD improvement at 1 year, which accompanied the improvement of inflammation in the antrum and corpus, suggesting that inflammation is an important factor that mediates FD.
- In the same study, it was shown that H. pylori eradication therapy is not effective in all FD patients with H. pylori-positive, but is effective in a subset of FD patients with H. pylori-positive.

- **The patients with *H. pylori* infection having dyspeptic symptoms should be treated first as *H. pylori* infection with dyspepsia, instead of diagnosing them as functional dyspepsia having *H. pylori* infection.**
- The spectrum of pathological as well as physiological changes caused by *H. pylori* infection entitles it to be included as an organic disease.
- **There is a small but statistically significant benefit in eradicating *H. pylori* in patients with chronic dyspepsia, with a number needed to treat of 14.**

- **The residual dyspeptic symptoms after complete cure of *H. pylori* infection may then be considered to be caused by coexisting "functional dyspepsia."**

Treatment of functional dyspepsia

- **Reassurance, education, lifestyle, and dietary recommendations (more frequent, smaller meals and avoiding meals with high fat content) are frequently recommended to FD patients, but they have not been studied systematically.**
- **Avoidance of nonsteroidal anti-inflammatory drugs, coffee, alcohol, and smoking is commonly recommended and seems sensible, although not of established value.**

Symptom Severity as a Guide to Treatment

Clinical feature estimated prevalence	Mild 40%	Moderate 35%	Severe 25%
Psychometric correlate	FBDSI, <36 IBS-SSS, 75–175	FBDSI, 36–109 IBS-SSS, 175–300	FBDSI, >110 IBS-SSS, >300
Physiological factors	Primarily bowel dysfunction	Bowel dysfunction and CNS pain dysregulation	Primarily CNS pain dysregulation
Psychosocial difficulties	None or mild psychosocial distress	Moderate psychosocial distress	Severe–high psychosocial distress, catastrophizing, abuse history
Sex	Men = women	Women > men	Women >>> men
Age	Older > younger	Older = younger	Younger > older
Abdominal pain	Mild/intermittent	Moderate, frequent	Severe/very frequent or constant
Number of other symptoms	Low (1–3)	Medium (4–6)	High (≥7)
Health-related quality of life	Good	Fair	Poor
Healthcare use	0–1/y	2–4/y	≥5/y
Activity restriction	Occasional (0–15 days)	More often (15–50 days)	Frequent/constant (>50 days)
Work disability	<5%	6%-10%	≥11%

Symptom Severity as a Guide to Treatment: Mild symptoms



- **Comprise ~40% of patients, predominantly seen in primary care than in gastroenterology practices, do not have major impairment in function or psychological distress**
- **Symptoms often based on GI dysfunction, pain is minimal or mild and without other comorbid physical symptoms**
- **Patients with mild symptoms do not usually have dominant psychiatric diagnoses, their quality of life is good, but may experience concerns about the implications of their symptoms on their life**
- **Treatment directed toward:**
 - **Education**
 - **Reassurance**
 - **Diet and medication**

Symptom Severity as a Guide to Treatment: Moderate symptoms



- **~30%–35% primary or secondary care report moderate symptoms and have intermittent disruptions in activity**
- **Patients present with moderate abdominal pain, more psychologically distressed than patients with mild symptoms**
- **There may be several other medical or psychological comorbidities, and these patients may lose time from work or need to curtail usual functioning**
- **Additional treatment options are recommended:**
 - **Symptom monitoring**
 - **Pharmacotherapy directed at specific symptoms**
 - **Psychological treatments**

Symptom Severity as a Guide to Treatment: Severe symptoms

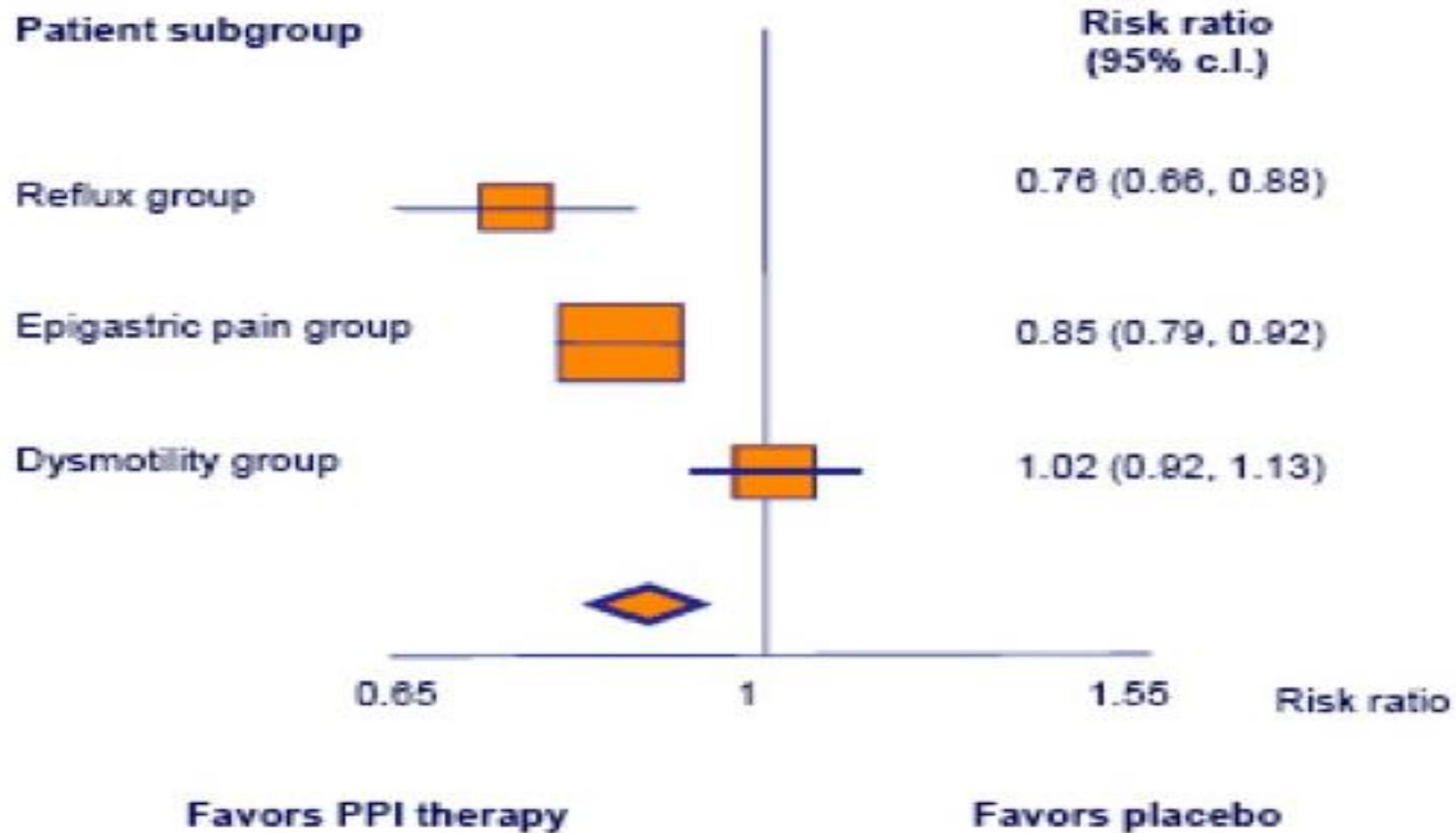


- Experienced by ~20%–25% of patients
- Often : high frequency of associated psychosocial difficulties, including anxiety, depression, personality disturbance, and chronically impaired daily functioning
- There may be a history of major loss or abuse, poor social networks or coping skills, and catastrophizing behaviors
- Perhaps from earlier experiences in the healthcare system, patients may feel stigmatized with their condition, may be unwilling to engage in psychological or psychopharmacologic treatment
- Treatment options are directed towards:
 - The physician's approach
 - Antidepressant treatment
 - Functional GI or pain treatment center referral

Treatment of functional dyspepsia

- **Proton pump inhibitors and H2RAs** are regarded as effective treatment for FD, based on several controlled trials with a therapeutic gain over placebo of 10%-15%, although the **effect of overlapping or misdiagnosed GERD cannot be ruled out.**
- Proton pump inhibitors are **ineffective** in relieving PDS symptoms.

Response to proton pump inhibitors



Treatment of functional dyspepsia

- **Prokinetics:**
 - **Pure prokinetic treatments without central antiemetic effects (eg, erythromycin, azithromycin, ABT 229) may be less effective than therapies with combined prokinetic and antiemetic action.**
 - **Itopride is a novel prokinetic agent that works by antagonizing dopamine D2-receptors and inhibiting acetylcholinesterase, and has been shown to improve postprandial fullness and early satiety with a low rate of adverse reactions.**

Treatment of functional dyspepsia: Prokinetics

- **The meta-analysis of 14 trials including 1053 patients with FD led to a conclusion that the efficacy of prokinetics (61%) was superior as compared to placebo (41%) with NNT=4.**

Moayyedi P. et al. Aliment. Pharmacol. Ther.,2003; 17:1215-1227

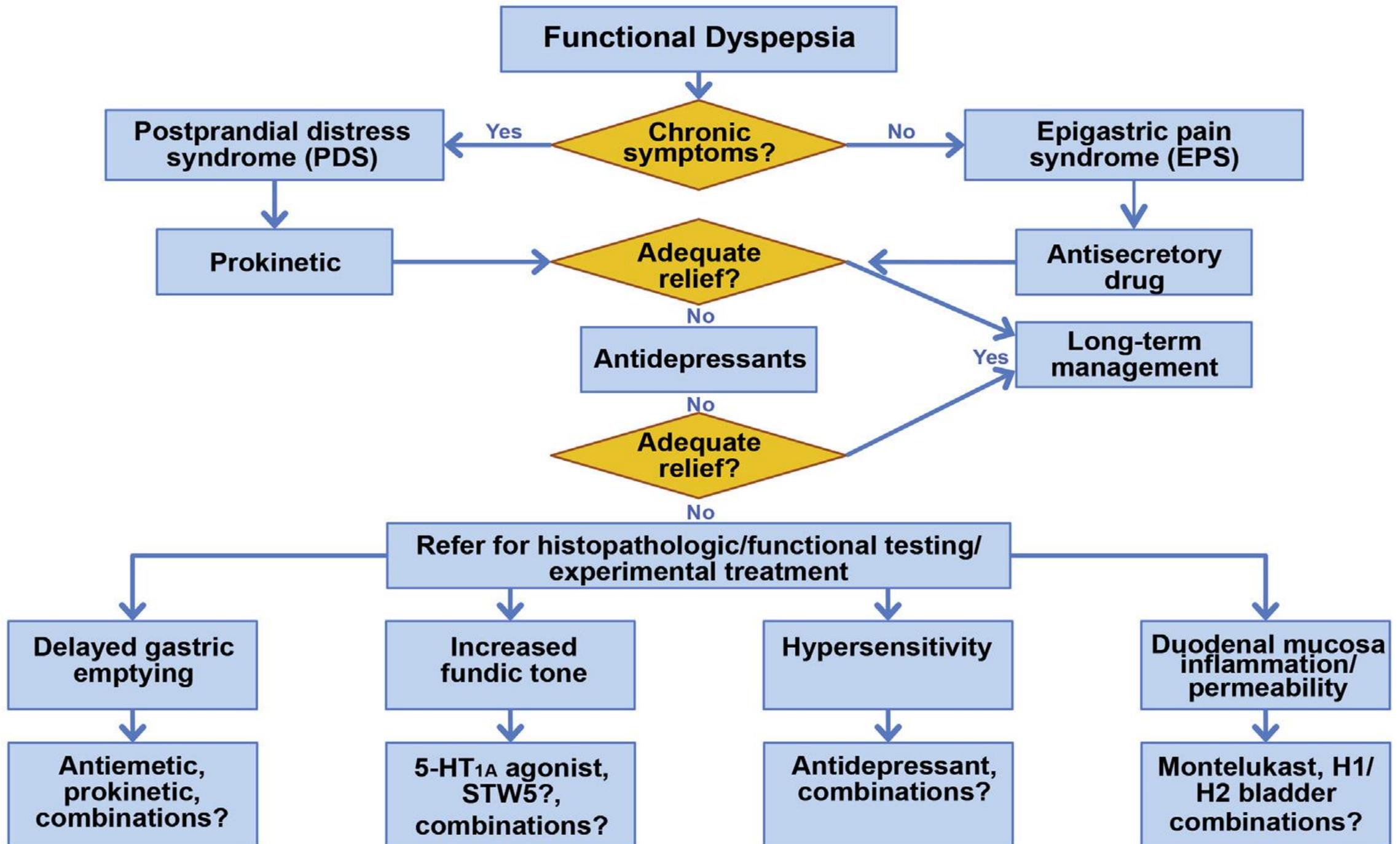
Summary of prokinetics

(Holtmann G. Medical Tribune, 2006; 1-15 Nov)

	Itopride	Cisapride	Metoclo- promide	Domperi- don
Prokinetic action	Strong	Strong	Strong	Moderate
Antiemetic action	Moderate	None	Strong	Moderate
QT-pro- longation	Negative	Positive	Negative	Negative
Mode of action	D₂-antag., AChE-inh	5-HT ₄ - agonist	D ₂ -antag., 5-HT ₄ -ag.	D ₂ -antag.,
Extrapyr. effects	Rare	Rare	Frequent	Rare

Treatment functional dyspepsia

- **Acotiamide (Z-338) has fundus relaxing and gastroprokinetic properties, based on a procholinergetic effect that improves dyspeptic symptoms over placebo, with a number needed to treat of 6. Notably, the drug benefited PDS but not EPS.**
- **Other potentially effective fundic relaxants include: 5-HT_{1A} receptor agonists tandospirone and buspirone, 5HT_{1B/D} receptor agonist sumatriptan and the herbal product STW-5 and rikkunshito.**



An effective physician–patient relationship can improve patient satisfaction, adherence to treatment, symptom reduction, and other health outcomes.















