Understanding Non Ulcer Dyspepsia

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SUMMARY

Non ulcer dyspepsia is one of the most common problems encountered in primary care practice. The underlying pathophysiology of non ulcer dyspepsia is not fully understood, but it is known that this condition is associated with *H.pylori* infection and motility disorder. The presenting abdominal symptoms are non specific: they include bloating, belching, flatulence, excessive fullness after eating and nausea. Psychological condition such as anxiety, depression and stress do play a role in the recurrence of symptoms. Upper GI endoscopy is necessary in patients who presents with alarm symptoms suggestive of possible underlying organic condition before one makes the diagnosis of non ulcer dyspepsia. Pharmacological therapy using H2 receptor antagonist and proton pump inhibitors are effective for symptom relief. Patient's education and supportive care should be part of the management strategy in recurrent chronic dyspepsia.

KEY WORDS:
Non ulcer dyspepsia, functional dyspepsia, abdominal symptoms, H.pylori

INTRODUCTION

Upper abdominal discomfort is one of the most common symptoms of patients visiting their family doctors or consulting the gastroenterologists. There are many gastrointestinal tract (GIT) pathologies giving rise to discomfort or pain in the upper abdomen (Table I). However, in up to 60% of patients with upper abdominal discomfort, there is no detectable pathology[1]. Nonulcer dyspepsia or functional dyspepsia, describes recurrent or persistent symptoms of discomfort at the upper abdomen, mostly epigastric region, without any identifiable cause or pathology in the upper GIT [1,2].

The actual prevalence of this condition is unknown. According to various reports, up to 20-30% of the community have recurrent dyspeptic symptoms [7]. In some published literature, the reported prevalence is as high as 60% [2,3,4]. In Malaysia, one survey found 31.2% of non ulcer dyspepsia patients were tested positive for *Helicobacter pylori*[5].

Impact of the illness on patient and society

Patients experiencing symptoms of non ulcer dyspepsia often have an underlying fear of serious medical disorders such as peptic ulcer disease or GIT malignancy. The combination of both physical discomfort and the psychological fear of serious disease induce them to seek treatment. Recurrent symptoms of dyspepsia have resulted in substantial health care costs and have a great impact to society in terms of absence from work and reduced productivity at workplace [2].

Signs and symptoms

The presenting symptoms of non ulcer dyspepsia are usually non specific. It may be a mild discomfort which the patient commonly describes as "indigestion", or a severe "burning" sensation Other symptoms include bloating, belching, flatulence, excessive fullness after eating and nausea[1,3,4]. A local study has shown that symptoms of nocturnal pain, pain before meals or when hungry and absence of nausea are more suggestive of peptic ulcer disease than non peptic dyspepsia[6]. All the other symptoms are common for both the conditions. Physical signs do not distinguish clearly between the two diagnoses.

A helpful diagnostic set of criteria which the physician may use to guide them in the diagnosis of nonulcer dyspepsia is the ROME III criteria for functional dyspepsia which was published in 2006. (Table II) Comparing to the older version of the ROME II criteria, the revised Rome III criteria defined functional dyspepsia as "presence of one or more of the following symptoms : bothersome postprandial fullness,early satiation, epigastric pain and or epigastric burning sensation with no evidence of structural disease (including at upper endoscopy). These symptoms are present in the last 3 months and symptoms onset at least 6 months prior to the diagnosis." There are two subcategories of symptom-complex, (i) Postprandial distress syndrome and (ii) Epigastric pain syndrome. The postprandial distress syndrome, also known as meal-induced dyspeptic symptoms, includes symptoms of postprandial fullness and early satiation. In clinical practice the symptoms in these 2 categories may be overlapping.

Pathophysiology of non ulcer dyspepsia

The pathophysiology of non ulcer dyspepsia is poorly understood. About 25 to 60 percent of patients investigated for non ulcer dyspepsia demonstrated motility dysfunction of the upper GIT [8,9]. Other postulation includes visceral

Table I: Common organic causes of upper GIT discomfort or pain

Peptic Ulcer disease
Reflux esophagitis
Gastric/esophageal malignancy
Pancreatitis
Biliary tract disease
Angina pectoris

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Table II: Rome III Diagnostic criteria for functional dyspepsia

Functional dyspepsia
Diagnostic criteria* Must include:
1. One or more of the following:
a. Bothersome postprandial fullness
b. Early satiation
c. Epigastric pain
d. Epigastric burning
AND
2. No evidence of structural disease (including at upper endoscopy) that is likely to explain the symptoms.
* Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis

Postprandial Distress Syndrome
Diagnostic criteria Must include one or both of the following:*
1. Bothersome postprandial fullness, occurring after ordinary-sized meals, at least several times per week
2. Early satiation that prevents finishing a regular meal, at least several times per week

* Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis
Supportive criteria
1. Upper abdominal bloating or postprandial nausea or excessive belching can be present.
2. Epigastric pain syndrome may coexist

Epigastric Pain Syndrome
Diagnostic criteria Must include all of the following:*
1. Pain or burning localized to the epigastrium of at least moderate severity, at least once per week
2. The pain is intermittent
3. Not generalized or localized to other abdominal or chest regions
4. Not relieved by defecation or passage of flatus
5. Not fulfilling criteria for gallbladder and sphincter of Oddi disorders

* Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis
Supportive criteria
1. The pain may be of a burning quality, but without a retrosternal component
2. The pain is commonly induced or relieved by ingestion of a meal, but may occur while fasting 3. Postprandial distress syndrome may coexist

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Table III: Important indications for Upper GIT endoscopy

Age > 45
Hemetemesis
Melena
Unexplained weight loss
Protracted vomiting
Dysphagia
Abdominal mass
Strong family history of malignancy
Anaemia

hypersensitivity, delayed gastric emptying and impaired gastric fundus accommodation[10]. Delayed emptying of the gallbladder and dysfunction of the sphincter of Oddi have also been implicated in the pathogenesis [11].

Currently one of the most accepted theories is *Helicobacter pylori* infection associated with non ulcer dyspepsia[11,12]. In a local study in Kuala Lumpur, *H.pylori* was found in 31.2% of the non ulcer dyspepsia patients [5]. In Singapore, it was found that among the non ulcer dyspepsia patients investigated for *H.pylori*, the Chinese had the highest prevalence of 48% followed by the Malay, 37%[13].

There is no solid evidence that smoking, alcohol, or NSAIDs are considered to be significant risk factors for non ulcer dyspepsia, even though patients with non ulcer dyspepsia are more likely to develop abdominal symptoms when treated with NSAIDs[14].

There is evidence that non ulcer dyspepsia is associated with psychological symptoms of anxiety and depression. Besides abdominal discomfort and pain, some of these patients also complain of multiple somatic symptoms[15,16]. Stressful life events are also known to be associated with recurrent symptoms of dyspepsia[16,17].

Investigation

The most important point to note in making the diagnosis of non ulcer dyspepsia is that the treating physician must be sure that the patient is not suffering from any organic cause of the upper GIT symptoms. Upper GIT endoscopy for symptomatic patient is essential to exclude important diseases such as esopghagitis, gastritis, peptic ulcer disease and malignancy. Routine testing for *H.pylori* infection during endoscopy is recommended in view of the strong association between *H.pylori* and both peptic ulcer disease and non ulcer dyspepsia[18,19]. Guidelines from various expert committee also suggest that an endoscopy should be performed for those who are above 45 years old with dyspeptic symptoms or patients who have been treated with H2-receptor antagonist or a proton pump inhibitor but have persistent symptoms. In these group of patients, there may be an underlying organic cause[20,22]. Endoscopy is also mandatory for those who present with alarm symptoms listed in Table III.

Management

The principles of management in non ulcer dyspepsia involved both non pharmacological and drug therapy.

Non pharmacological approach

Patient counseling and education are important aspects of the management especially for those with chronic and recurrent symptoms. Psychological intervention such as psychotherapy, cognitive behavior therapy, psycho-drama, relaxation exercise, and hypnosis have been found to improve patient's symptoms and quality of life[15]. However there is insufficient evidence to confirm the efficacy of psychological intervention in non ulcer dyspepsia[26]. Stopping smoking and ceasing consumption of coffee, alcohol, or NSAIDs is commonly recommended. They do work in some patients, but there is not enough evidence of their efficacy[23].

Pharmacological approach

Antacids, H2 receptor blocker and proton pump inhibitors are the common drug therapies used by primary care physicians. Studies have demonstrated that both H2 receptor blocker and proton pump inhibitor (Omeprazole) are effective in relieving the symptoms of dyspepsia, but there is no evidence that antacids are effective[2,23].

The association between *H. pylori* and non ulcer dyspepsia (also peptic ulcer disease) is well established and therefore eradication therapy is recommended for all positive cases[18,19]. Results from the Cochrane Collaboration systemic review shows that a one to two week course of *H. pylori* eradication therapy has a small but statistically significant effect in *H pylori* positive non-ulcer dyspepsia[18]. It was found that only about 25% of patients are relieved of symptoms after successful eradication of *H.pylori*. If symptoms are controlled, a trial of withdrawal of therapy should be considered, with therapy repeated in the case of symptom recurrence[28].

Prokinetic drugs such as domperidone, metoclopramide and Itopride are commonly available at the primary care clinic for symptom relief of dyspepsia. Cisapride has been withdrawn from the market due to life-threatening arrhythmias. Both tricyclic antidepressants and selective serotonin uptake inhibitors (SSRIs) have been used but further studies need to be conducted to evaluate the therapeutic significance of this group of drugs[24].

CONCLUSION

Non ulcer dyspepsia is one of the most common reasons for patient to visit their family doctor. Physicians must be clear about the diagnostic criteria for non ulcer dyspepsia. Underlying organic causes such as peptic ulcer disease, esophagitis, gastritis and malignancy must be excluded before making the diagnosis of non ulcer dyspepsia. There is a psychological component to non ulcer dyspepsia and intervention by both pharmacology and non pharmacological approaches help in relieving the symptoms of dyspepsia.

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Understanding Non Ulcer Dyspepsia

MCQ (TRUE/FALSE)

1. The following statements is/are true regarding non ulcer dyspepsia.
   A. It is associated with *Helicobacter pylori* infection.
   B. Psychological stress worsens the symptoms of non ulcer dyspepsia.
   C. It can easily be diagnosed during the first consultation.
   D. Melena is one of the major presenting symptoms
   E. GIT motility disorder may be the cause.

2. The following are recognized symptoms of non ulcer dyspepsia:
   A. bloating.
   B. belching.
   C. flatulence, and nausea.
   D. excessive fullness after eating.
   E. loss of weight.

3. Indication for upper GIT endoscopy in patient diagnosed with dyspepsia include:
   A. Hemetemesia.
   B. Melena.
   C. Unexplained weight loss.
   D. Persistent symptoms despite treatment with H2 antagonist.
   E. Dysphagia.

4. In the management of non ulcer dyspepsia:
   A. Patient education is part of the management strategy.
   B. Psychological history need to be explored in patient with recurrent symptoms despite of treatment.
   C. Anti depressant is effective in majority of the patients.
   D. Proton pump inhibitor is effective for symptom relief.
   E. Elderly above 45 with recent onset of dyspepsia symptoms should be referred for upper GIT endoscopy.

5. In Rome III criteria for diagnosis of functional dyspepsia:
   A. Early satiation is one of the symptoms.
   B. Symptoms of onset at least 1 year prior to diagnosis.
   C. Underlying organic cause must be excluded.
   D. Symptoms lasted for the last 3 months.
   E. Epigastric pain exclude non ulcer dyspepsia.