Dyspepsia in Primary Care Medicine: A European Prospective

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Keywords

Dyspepsia · Gastric cancer · Primary care

Abstract

Background: Dyspepsia is a very frequent condition, affecting up to 50% of general population. Primary care is the logical setting for starting a management. In treating dyspeptic patients, it is a crucial point to distinguish between functional problems, common diseases such as reflux esophagitis or peptic ulcer, and life-threatening diseases such as upper gastrointestinal (GI) cancer. In Europe, there are different approaches to this problem. We describe the management of dyspepsia, with a particular focus on relationship between dyspepsia and gastric cancer. **Summary:** Initial treatment of dyspepsia includes empirical treatment, noninvasive testing for *Helicobacter pylori*, and upper GI tract endoscopy. Treatment choice is based on different variables, including alarm signs, patient preference, and possibility to perform a gastroscopy. General practitioners are not allowed in all European nations to order a gastroscopy. This may have some reflection on quality of cure. **Key Message:** In European countries, there are heterogeneities in terms of gastric cancer incidence, mortality, and quality of cure. Awareness of them is a first step in identifying possible solutions.

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Introduction

Dyspepsia is a common experience in everyone's life. In most cases, it is transient, self-limiting, or easily curable with over-the-counter products. In other cases, dyspepsia is the presenting symptom of serious disease, including upper gastrointestinal (GI) tract cancer. Doctors, both general practitioners (GPs) and gastroenterologists, when consulted, have to choose to treat the symptoms or to investigate the patient. However, despite the existence of guidelines, accessibility to investigation is not the same in many European countries. The aim of this study is to compare how dyspepsia is managed in different European countries.

Definition of Dyspepsia

Dyspepsia, the Greek term for bad digestion, has been commonly defined as upper abdominal discomfort, bloating, anorexia, early satiety, belching, regurgitation, nausea, or heartburn. This definition is too wide, and there is a need for more stringent criteria to obtain homogeneity in the studies. The so-called Rome III criteria are postprandial fullness, early satiety, or epigastric pain or burning [1]. The Rome IV criteria define dyspepsia as any combination of these 4 symptoms: postprandial fullness,

Table 1. Prevalence (95% confidence interval) of uninvestigated dyspepsia in European countries, according to Rome I–IV criteria

Nation	Rome I criteria	Rome II criteria	Rome III criteria	Rome IV criteria
Belgium				5.0 (4.1–6.0)
Croatia			16.6 (13.8–19.6)	
Finland		7.9 (7.0–8.8)		
France			4.0 (3.8–4.2)	8.5 (7.3–9.8)
Germany				6.9 (5.8–8.1)
Iceland	17.8 (15.8–20.0)			
Italy		15.1 (13.0–17.4)	21.4 (19.1–23.9)	9.1 (7.9–10.4)
The Netherlands				4.0 (3.3–5.0)
Norway			6.9 (5.4–8.6)	
Poland				8.3 (7.2–9.6)
Portugal			40.4 (32.8–48.2)	
Romania			7.6 (4.2–12.4)	7.4 (6.3–8.6)
Russia	37.5 (34.5–40.5)			10.3 (9.0–11.7)
Spain		2.0 (0.9–3.8)		7.4 (6.3–8.6)
Sweden	17.5 (10.8–25.5)	22.5 (4.2–49.8)	20.2 (17.7–22.8)	8.2 (7.0–9.5)
Turkey		9.5 (7.4–11.9)		2.8 (0.2–8.1)
UK			5.9 (4.9–7.0)	7.1 (6.2–8.1)

Adapted from Barberio et al. [4].

early satiety, epigastric pain, and burning that are severe enough to interfere with the usual activities and occur at least 3 days per week over the last 3 months with an onset at least 6 months in advance [2]. Curiously, nausea and vomiting are not included in this classification of dyspepsia.

Epidemiology of Dyspepsia

The prevalence of this disorder is very high, with some differences between studies, depending on the definition used to diagnose dyspepsia. In a seminal study from England, only 37% of random interviewed persons reported no dyspepsia, 25% reported a past history, 28% present dyspepsia with self-care, and 10% of the population sought advice from their primary care doctor [3]. A recent meta-analysis [4] has shown a global prevalence of dyspepsia ranging between 31.3 and 6.9%, depending upon the criteria used to define its presence. This study addressed also the prevalence by country: the prevalence is around 5–10% in almost all European countries that have at least 1 study cited in this article (Table 1).

Causes of Dyspepsia

There are many disorders that present with symptoms of dyspepsia, including peptic ulcer disease, gallstones, pancreatic diseases, and gastroesophageal reflux disease; however, the most common is functional dyspepsia. In a population-based study [5], 76.8% of dyspeptic patients had no pathological endoscopic findings (1.1% gastric neoplasia, 5.9 peptic ulcer, 1.3% Barrett esophagus, and 11.8% esophagitis). Similar data are reported in a review including 9 studies: 5 from Western countries and 4 studies conducted in Asia [6]. According to the review, prevalence of gastric and esophageal malignancies in dyspeptic patients is only 0.5%. Given those numbers, it is impossible to investigate dyspepsia in everyone presenting with the symptom, and most of the patients can be treated with placebo or reassurance, proton pump inhibitors (PPIs), and *Helicobacter pylori* eradication. Moreover, endoscopy in all dyspeptic patients will lead to overuse of health-care facilities, putting pressure on endoscopy services.

Investigation of Dyspepsia

Direct visualization of the upper GI tract with endoscopy should be performed in case of alarm symptoms: bleeding, iron deficiency anemia, persistent vomiting,

Table 2. Accessibility to upper GI endoscopy to general practitioners in different countries

Nation	Direct access to endoscopy	Alternative test	Waiting list with alarm symptoms	Gastric cancer incidence	Gastric cancer mortality
Estonia	Yes			12.3	9
Romania	No	HpSA		9.4	7.4
Croatia	No	HpSA		8.7	6.4
Italy	Yes	PPI, HpSA	2 weeks	7.1	4.3
Greece	Yes (with some limitations)			6.1	4.2
Spain	Yes	HpSA, UBT	Few days	5.8	4.1
Czech Republic	Yes	HpSA, PPI		5.5	3.6
The Netherlands	Yes	HpSA	Few days	5.2	2.7
UK	Yes		2 weeks	4.0	2.4
Sweden	Yes			3.3	2.1

Gastric cancer incidence per 100,000 inhabitants/year; gastric cancer mortality per 100,000 inhabitants/year. GI, gastrointestinal; HpSA, *Helicobacter pylori* stool antigen; PPI, proton pump inhibitor; UBT, urea breath test.

unintentional weight loss, palpable abdominal mass, and family history of gastric cancer. New-onset dyspepsia should be investigated as well, starting at the age of 50 years. This age could vary, depending upon incidence of gastric cancer in a specific geographic zone. However, there is no evidence that a higher incidence of gastric cancer in some countries is attributable to the early onset of gastric cancer; therefore, the recommendation is not based on solid evidence.

Investigation strategies alternative to gastroscopy are PPI test and *H. pylori* test. PPI test is a simple tool to diagnose gastroesophageal reflux disease [7] and has been validated also in functional dyspepsia [8]. PPI test includes accurate notation of symptoms and compliance to therapy and should be intended for clinical studies. There are some criticism about PPI test. PPI test is poorly defined in terms of dosage, duration of the trial, and end-point (complete remission vs. symptom improvement). Moreover, it fails to distinguish between GERD and dyspepsia [9]. Empiric treatment with PPI is similar to PPI test and can be useful for single patients, especially in primary care settings.

Two management strategies are based on *H. pylori*: performing endoscopy in those who tested positive (test and scope) or direct eradication treatment (test and treat). There are evidence that a test and treat *H. pylori* is appropriate for uninvestigated dyspepsia [10]. This approach is cost saving, and reduces the number of endoscopies. However, patient satisfaction is slightly better when endoscopy is performed, probably because of the reassurance provided by a direct view procedure. A recent meta-analysis, based on 15 eligible random-

ized controlled trials, assessed the effectiveness of these strategies for the management of dyspepsia in adult participants [11]. Test and treat might be the most effective first-line strategy for the management of uninvestigated dyspepsia in primary care, in terms of effects on symptoms. "Test and treat" was more likely to reduce the use of endoscopy, avoiding pressure on endoscopy services.

Europe is heterogeneous in terms of incidence of gastric cancer. Incidence is higher in eastern countries, such as Belarus, Russian Federation, and Estonia, and lower in the UK, France, The Netherlands, and Scandinavian countries [12]. The difference in incidences can be due to different genetic substrates, different ratios of *H. pylori* infection, and different efficacies of health systems. One critic point in early diagnosis is the accessibility to accurate investigations. GPs do not have the same possibilities to have a gastroscopy done through Europe (Table 2). In some countries, a "fast lane" access to upper GI endoscopy for patients with alarm signs is provided. In other countries, GPs can send patients through waiting list, and in some countries, GPs have not the possibility to prescribe a gastroscopy, which should be prescribed only by a gastroenterologist. Unfortunately, sometimes in countries with higher incidence of gastric cancer, it is difficult to obtain a gastroscopy.

The ratio between incidence and mortality, the lethality, could reflect from one side of the biology of the cancer; by the other side, the efficacy of the cure, in terms of early diagnosis and therapy; and, at the end, the function of health system. It is to note that nations in which there is no direct access to upper endoscopy are between those

with higher lethality, with the exception of Estonia, which is one of the countries with higher gastric cancer incidence in Europe.

Conclusion

Dyspepsia is a very common condition, leading to a big workload in primary care. Because of the frequency of the condition, dealing with this problem is not always satisfying. Some European health systems are affording the problem in suboptimal way because of shortage in endoscopy offer. In the present study, an association between difficult access to endoscopy and gastric cancer lethality emerges. Gastric cancer prognosis is related to many different factors. Those related to quality of treatment include prompt diagnosis and high-quality surgical and medical therapy; those are depending on overall quality of facilities and are modifiable. Prognosis also depends on patient status and on biology of the tumor, and we do not know if a worse prognosis in some countries is linked to a different behavior of the disease. Anyway, even if non-invasive method to discriminate patients needing further invasive and costly examinations is widely used, it is reasonable that in some European countries, the access to endoscopy is too difficult.

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Statement of Ethics

This study is exempt from Ethics Committee approval, as it is a narrative review without the involvement of patients or clinicians as subjects.

Conflict of Interest Statement

The author has no conflicts of interest to declare.

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