How well do general practitioners manage dyspepsia?

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SUMMARY. This paper reports the incidence of dyspepsia in general practice, the characteristics of patients, the types of complaints presented and the management of the dyspeptic patient by general practitioners. Fourteen general practitioners in the Maastricht region of the Netherlands studied 318 consecutive patients presenting with dyspepsia. Two questionnaires were used: one filled in by the patient (82% response), the other by the physician (100% response). The diagnostic conclusions which were established after three months of follow-up were compared with the diagnostic hypotheses at the initial consultation.

The annual consultation rate for dyspepsia was calculated as 27 per 1000 registered subjects. One third of the patients had an earlier history of dyspepsia. Almost all patients (95%) complained of pain, and 37% had been suffering from pain for more than three months before consulting the general practitioner. The general practitioner prescribed medication in 70% of cases; less commonly the patient was referred for x-ray (14%), endoscopy (13%) or to a specialist (11%). A higher age was associated with a higher probability of referral, and with the finding of organic disease. A history of ulcer disease was strongly correlated with the diagnosis of an ulcer during the current episode.

The overall concordance between the general practitioner’s diagnostic hypothesis at the initial consultation and the diagnostic conclusion after three months of follow-up was 78%; it was highest when minor pathology was suspected. We conclude that dyspepsia is managed well in general practice and is only rarely associated with major lesions. Dyspeptic patients referred to a specialist therefore constitute a highly selected population.

Introduction

UPPER gastrointestinal tract complaints are very common: 1–3% of the population visits the family physician for dyspepsia annually. While some authors report that the general practitioner’s ability to distinguish between organic and non-organic disease is disappointing, others, notably de Dombal, maintain that an accurate and detailed case history leads to a correct diagnosis in the great majority of cases. The purpose of this study is to draw up a profile of the characteristics and complaints of patients presenting to the general practitioner with a new episode of dyspepsia. The general practitioner’s management of the patients is described and the first diagnostic hypothesis is examined in relation to the diagnostic conclusion after three months of follow-up.

Method

Fourteen general practitioners in the Maastricht region participated in the study; half of them practised in a rural area, the other half in an urban setting. The total registered population of the 14 doctors was 28 000. In the first half of 1987 they admitted 318 consecutive patients presenting with dyspepsia to the study all of whom fulfilled the following criteria for participation: aged at least 18 years and presenting a new episode of upper abdominal or retrosternal complaints such as pain, pyrosis and vomiting, which were not clearly related to viral or bacterial infection and which had not already been given a diagnostic explanation. Although patients in whom gastrointestinal pathology had been diagnosed as the cause of the current complaint were excluded, a previous episode of dyspepsia which had resolved was not an exclusion criterion.

Two questionnaires were used: one was filled in by the patient directly after the first consultation and contained questions similar to those of a thorough history; the other was completed by the general practitioner also after the consultation and requested details about the family history, relevant former diseases, the diagnostic hypothesis and management. Provisional diagnoses were recorded according to the diagnostic criteria of the International classification of health problems in primary care (ICPPC-2). In addition, the doctors were asked to record their certainty about the diagnosis (certain or uncertain).

After three months of follow-up, the general practitioner established a diagnostic conclusion for each patient, based in all cases on at least a second (telephone) consultation, the patient’s records and for some patients on the outcome of x-ray, ultrasound or endoscopic studies or a consultant’s opinion.

The provisional diagnoses and diagnostic conclusions were classified into four groups:
- complaints lacking a firm pathological basis, such as disorders of stomach function/gastritis, irritable bowel syndrome, psychosomatic symptoms/complaints (group 1);
- duodenal ulcer (group 2);
- gastric ulcer or gastric cancer (group 3);
- other, such as hiatus hernia, cholelithiasis/cholecystitis, adverse effects of drugs (group 4).

Pearson’s chi square test for independent proportions with a two-sided 5% significance level was used for statistical testing.

Results

In 56 of the 318 cases (18%) the patient did not return the questionnaire. The physician’s questionnaire was completed for all 318 patients. Follow-up information was obtained for 310 patients.

Pattern of presentation of dyspepsia

On average, the general practitioners admitted patients to the study for a period of five months. An annual consultation rate of 27 cases per 1000 listed subjects for a new episode of dyspeptic disease could thus be computed. This is equivalent to one to two cases per week in an average family practice with 2500 patients. Table 1 shows the age and sex distribution of the patients.

Of the 262 patients who returned the questionnaire 95%
Table 1. Distribution by age and sex of patients visiting the general practitioner for dyspepsia.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–27</td>
<td>29 (19)</td>
<td>37 (23)</td>
<td>66</td>
</tr>
<tr>
<td>28–37</td>
<td>36 (24)</td>
<td>38 (23)</td>
<td>74</td>
</tr>
<tr>
<td>38–47</td>
<td>30 (20)</td>
<td>23 (14)</td>
<td>53</td>
</tr>
<tr>
<td>48–57</td>
<td>32 (21)</td>
<td>24 (15)</td>
<td>56</td>
</tr>
<tr>
<td>58–67</td>
<td>16 (11)</td>
<td>18 (11)</td>
<td>34</td>
</tr>
<tr>
<td>68–77</td>
<td>8 (5)</td>
<td>14 (9)</td>
<td>22</td>
</tr>
<tr>
<td>≥78</td>
<td>1 (1)</td>
<td>8 (5)</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>152 (100)</td>
<td>162 (100)</td>
<td>314*</td>
</tr>
</tbody>
</table>

*Information missing for four patients.

reported that they suffered from upper abdominal or retrosternal pain; almost half (49%) considered the pain severe. Only 21% had had pain for less than one week; 42% claimed pain for more than one week but less than three months; while 37% reported to have been suffering from pain for more than three months. Complaints other than pain were quite common, the most frequently mentioned being upper abdominal distension (73% of all patients), eructation (60%), nausea (57%), pyrosis (37%) and vomiting (28%). One third of the patients (33%) had an earlier history of dyspepsia.

**Provisional diagnoses and management of dyspepsia**

The first column of Table 2 lists the diagnostic hypotheses of the general practitioners at the first consultation. In 70% of all cases the doctors reported being certain of their opinion.

The general practitioners' management of the dyspeptic patients at the first consultation is illustrated by Table 3. Information was missing in five cases. The figures in the second column — which give the total proportion of patients referred based on the general practitioners' reports after three months of follow-up — indicate that a substantial number of patients were referred for x-ray investigations, endoscopy or to a specialist not at the initial consultation but at a later date. Further investigations and/or specialist opinion was requested for 78 patients in total; 24% of all men and 26% of all women. Referral to the specialist without prior investigation was uncommon and only applied in eight cases. Among women 69% of the 42 referred patients were aged 45 years or above, compared with 38% of the 120 non-referred (P<0.01). For men the corresponding percentages were 53% versus 40% (not significant).

Drugs were prescribed for 220 patients. The drugs prescribed could be divided into seven groups: antacids/mucosal protective agents (36% of patients); H2-receptor antagonists (23%); domperidone (19%); antisimpasmodics (10%); antiemetics (6%); antiulotytics (3%); miscellaneous (3%).

**Diagnostic conclusions at three months follow-up**

At three months follow-up, remission of symptoms was reported in 61% of all patients. There was no significant difference in remission of symptoms between those patients who were prescribed drugs and those who were not (60% versus 64%, chi-square test).

The percentage of patients with the most common conditions diagnosed after follow-up are listed in the second column of Table 2. The category 'non-gastric cancer' comprised one case of pancreatic malignancy and one case of liver metastasis of unknown origin, both diagnosed as gastritis at the initial consultation. The general practitioners now expressed certainty about the correct diagnosis in 86% of all cases.

It is remarkable that the spectrum of diagnostic conclusions after three months of follow-up correlated very closely with the pattern of initial diagnostic hypotheses. After follow-up, no differences in the frequency of functional disorders, peptic ulcer, or irritable bowel syndrome were found between those with and without persisting complaints.

For the 102 patients with a previous history of dyspepsia a duodenal ulcer was diagnosed for 25 (25%) while a gastric ulcer was diagnosed for three (3%).

Referral led to a group 2, 3 or 4 diagnosis in 44% of the 78 patients referred, independent of sex, and in 20% of the under 45 year olds referred compared with 58% of those aged 45 years or above (P<0.05).

Table 4 shows the provisional diagnoses of the doctor in relation to the diagnostic conclusions. An example illustrates how the table should be interpreted: at the initial consultation, 22 out of the 310 patients had a suspected duodenal ulcer; after follow-up, 25 patients were diagnosed with this. Fourteen of those 25 cases had already been diagnosed as having duodenal ulcer at the first consultation, while eight had initially been suspected of a group 1 diagnosis, and three had belonged to group 4. Of the eight patients who were false positives for duodenal ulcer at the initial consultation, seven ended up in group 1, and one in group 4. The concordance between the provisional diagnoses at the first consultation and the diagnostic conclusions after three months of follow-up was 78%; this is
Table 4. Provisional diagnosis at first consultation in relation to diagnostic conclusion after three months of follow-up.

<table>
<thead>
<tr>
<th>Diagnosis at follow-up</th>
<th>Diagnosis at initial consultation (number of patients)</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td></td>
<td>207</td>
<td>7</td>
<td>3</td>
<td>20</td>
<td>237</td>
</tr>
<tr>
<td>Group 2</td>
<td></td>
<td>8</td>
<td>14</td>
<td>0</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Group 4</td>
<td></td>
<td>24</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>241</td>
<td>22</td>
<td>4</td>
<td>43</td>
<td>310</td>
</tr>
</tbody>
</table>

*aIncluding one case of pancreatic cancer and one case of liver metastasis of unknown origin.

Group 1: functional disorders, irritable bowel syndrome.
Group 2: duodenal ulcer.
Group 3: gastric ulcer or gastric cancer.
Group 4: other, such as hiatus hernia, cholelithiasis/cholecystitis, adverse effects of drugs.

From Table 4 it may be inferred that in the case of dyspepsia, the predictive value of the general practitioner's first diagnosis is high for non-organic or functional disease (group 1) where it is 86% (that is, 207/241) whereas it is low for serious pathology (group 3) where it amounts to 25%. For duodenal ulcer the predictive value of the first diagnosis is intermediate at 64% (that is, 14/22).

Our study suggests that general practitioners can manage dyspepsia rather well, thereby limiting their use of investigation and referral facilities. The great majority of the cases are diagnosed correctly at the first consultation, especially owing to the high predictive value of the general practitioner's diagnosis of non-organic or functional disease. The validity of the provisional diagnosis of serious gastric disorders is not high, probably because of their non-specific clinical picture at first consultation. Recognition of these complaints is supported by further investigation. In selecting patients for investigation and/or referral, the age and the ulcer history of the patient seem to be of major significance.

Two questions can be raised about the method of this investigation. The first concerns the validity of information about complaints gathered by a self-reporting patient questionnaire, rather than by usual history-taking. This approach was adopted partly with a view to minimize the effort demanded from the general practitioners. In practice it worked well, with almost all items being answered intelligibly by most patients. An advantage of the self-reporting questionnaire is that the patient's answers are less coloured by his or her expectation of the response desired by the interviewer. Chisholm and colleagues reported positively about the reliability of the self-administered questionnaire.

Secondly, it is open to debate how far the final diagnosis obtained in this study — based on the 'inclusion criteria' of the ICHPPC-2 system after three months of follow-up and the outcome after advanced investigation and/or referral — represents the true nature of the pathology involved. Endoscopy, including biopsy, of all patients immediately after the general practitioner's consultation might have offered a superior 'gold standard'. On the other hand this would not only have been questionable from an ethical point of view, but also would have led to many patients refusing such an investigation. Those consenting would have constituted a selected group, probably not representative of the dyspeptic population in general practice at large. Besides, in a number of cases endoscopy would not have been a gold standard (for example, in cases of irritable bowel syndrome, cholelithiasis and so on).

It may be assumed that in practice the general practitioner is able to draw a satisfactory diagnostic conclusion after three months in most cases, and so it seems acceptable and clinically relevant to take this as a reference diagnosis. However, it is recognized that duodenal ulcer disease is characteristically of an intermittent nature, so that dissolution of symptoms by three months does not preclude the diagnosis with certainty. Masking of peptic ulcer disease by H2-receptor antagonists is unlikely since in the Netherlands general practitioners prescribe these drugs for no longer than six weeks, after which endoscopy is indicated when symptoms recur. It is also unlikely that gastric cancer would not have been recognized within three months after presentation of symptoms.

We conclude that in general practice dyspepsia is only rarely associated with major lesions. The predictive value of the general practitioner's diagnostic hypothesis at first consultation is high when non-organic or functional disease is suspected. Patients with dyspeptic complaints who are referred to a specialist constitute a highly selected population.
References


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