Upper gastrointestinal endoscopy — a view from general practice

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SUMMARY. An open-access upper gastrointestinal endoscopy service for general practitioners is described. Between July 1981 and May 1985, 391 endoscopies were performed on 354 patients. In contrast to the results of other studies, demand for endoscopy and the pick-up rate for major lesions has remained steady, and the number of requests for barium meals has fallen by almost a quarter. Major lesions — cancer, gastric and duodenal ulcers and severe oesophagitis — were found in 33% of patients. Oesophagitis accounted for 28% of positive endoscopies and 18% of positive endoscopies in patients with barium negative dyspepsia. With scarce resources there may, however, be a case for 'selective' access to upper gastrointestinal endoscopy in the future.

Introduction

Accurate diagnosis of persistent digestive complaints is important for several reasons. Symptoms correlate poorly with site and severity of disease[1,2] and different lesions obviously have different natural histories and therapeutic implications. Most general practitioners have free access to barium-meal examinations for patients.[3] There is evidence that upper gastrointestinal endoscopy offers significant advantages over radiology in the investigation of dyspeptic problems.[4,5] For example, endoscopy has been shown to be more sensitive (92% versus 54%) and specific (100% versus 91%) in detecting such problems than the double-contrast barium meal.[6] There is controversy about the relative merits of endoscopy and radiology as first-line investigations in upper abdominal pain[7] but a number of studies have suggested that the provision of open-access endoscopy for general practitioners is worthwhile.[2,8–10]

More recent studies have presented the opposite view, that open access leads to an expanding demand for endoscopies and a steadily falling yield of 'significant' lesions, without influencing the number of requests for radiology or improving the outlook for patients with malignant disease.[11,12] Mann and colleagues[13] have proposed a scoring system to identify patients in whom 'significant' lesions are likely to be found and De Dombal's group have reported a computer-based screening questionnaire capable of accurate discrimination between 'low-risk' and 'high-risk' patients.[14]

This paper examines the feasibility of an open-access endoscopy service for general practitioners, situated in a general practitioner hospital.

Method

Requests for endoscopy were accepted from all 20 general practitioners working in Andover, a Hampshire market town with a population of approximately 42 000. Andover War Memorial Hospital is a general practitioner hospital which has 34 acute beds and is 15 miles from the nearest district general hospital. Endoscopies were performed by the author in the general practitioner hospital, as day cases: patients were examined under intravenous sedation and a Fujinon FG-QBF forward-viewing instrument was used.

Oesophagitis was classified according to the system used by Gibson and colleagues,[2] considering grades III and IV of the disease to be as 'significant' as gastric and duodenal ulceration. Endoscopic biopsies were performed on all patients with a gastric ulcer or a final diagnosis of carcinoma and on patients with macroscopic diagnoses of oesophagitis, gastritis or duodenitis, revising the diagnosis when appropriate.

Student's t-test and the chi-square test were used to test differences between groups.

Results

Between July 1981 and May 1985, 423 endoscopies were performed. The mean interval between referral and endoscopy was 15 days with a wide range (standard deviation 7.3 days). All but one of the 20 general practitioners in Andover made use of the service and referrals were also received from consultant clinics. The extent of use varied widely between general practitioners; excluding the author's own patients the mean number of requests for each general practitioner was 18 (range 1–40), with 11 general practitioners requesting 15 or more endoscopies. Two referrals were declined, both of which were for investigation of dysphagia before barium studies were to be carried out. The reasons general practitioners gave for referral are shown in Table 1. There is now a steady demand for endoscopy with approximately three examinations each week and the proportion of 'major' lesions discovered has been steady at 20–30%.

Table 1. General practitioners' reasons for referral of patients to gastrointestinal endoscopy (n = 423 patients).

	Number (%) of patients
Upper abdominal pain	288 (*68*)
Barium negative dyspepsia	47 (*11*)
Follow up	37 (*9*)
Gastrointestinal haemorrhage	12 (*3*)
Confirmation/investigation of X-ray findings	10 (*2*)
Anaemia	8 (*2*)
Weight loss	8 (*2*)
Nausea/vomiting	7 (*2*)
Dysphagia	5 (*1*)
Cancerphobia	1 (—)

Endoscopy was unsuccessful in 32 (8%) of these patients, predominantly young to middle-aged males taking psychotropic medication or admitting to a high alcohol intake.

Three hundred and ninety one successful endoscopies were performed on 354 patients, 185 men and 169 women aged from 17 to 85 years (mean age 49 years). The principal findings at initial endoscopy are shown in Table 2. In the 47 patients with barium-negative dyspepsia (Table 3) the findings were similar although there was a slightly lower proportion of negative examinations (the difference was not significant).

There were some important differences between the 105 patients with major lesions and the 249 with minor lesions or no abnormalities at endoscopy. In particular, those with more serious disease were significantly older (mean 55.1 ± standard deviation 14.5 years versus 44.4 ± 15.9 years; $P < 0.05$) and more likely to be male (male: female ratio 71:34 versus 121:128; $P < 0.001$). They also tended to have had a previous history of investigation or surgery for peptic ulcer disease and to have lost weight before referral. These differences were even more marked in the patients with carcinomas; all but one were male, with a mean age of 68.6 years.

One hundred and two endoscopic biopsies were taken, from the patients with carcinoma, gastric ulcers and minor mucosal lesions. Of the 64 patients with a macroscopic diagnosis of gastritis, biopsies were taken in 42; in 39 (93%) of these the diagnosis was confirmed histologically.

In the first 18 months of the endoscopy service there were 534 requests for barium meals; this number fell by 100 to 434 in the second 18-month period and by a further 47 requests in the last 10 months.

There were no complications arising from the procedure.

Table 2. Principal findings at initial endoscopy (n = 354 patients).

	Number (%) of patients
Major lesions	
Severe peptic oesophagitis	52 (*15*)
Duodenal ulcer	35 (*10*)
Gastric ulcer	21 (*6*)
Oesophageal and gastric cancer	7 (*2*)
Minor lesions	
Gastritis	64 (*18*)
Oesophagitis	28 (*8*)
Duodenitis	20 (*6*)
Oesophagitis and duodenitis	18 (*5*)
Scarred duodenum	17 (*5*)
Hiatus hernia	14 (*4*)
No abnormality	84 (*24*)

NB Some patients had more than one problem.

Table 3. Findings after endoscopy for patients with barium-negative dyspepsia (n = 45 patients).[a]

	Number (%) of patients
Severe oesophagitis	8 (*18*)
Duodenal ulcer	5 (*11*)
Gastric ulcer	1 (*2*)
Minor lesions	24 (*53*)
No abnormality	7 (*16*)

[a]Endoscopy was not possible in two cases.

Discussion

As a result of setting up this open-access service, there is now a steady demand for upper gastrointestinal endoscopy in Andover. This confirms previous suggestions[15] that the number of patients with dyspepsia who become symptom-free or die is balanced by a similar number who develop dyspepsia for the first time. It also means that the general practitioners think that the service is useful. Further, there has not been a rise in requests for endoscopy nor has there been, contrary to the report of Holdstock and colleagues,[12] a gradual decline in the proportion of 'major' lesions discovered. In this study, the pick-up rate for the so-called 'major' lesions has been steady at between 20–30% for the last two years. This may indicate an important distinction between a service with a clearly defined catchment area, as in Andover, and one which is centred on a district hospital in a densely populated area where demand is likely to increase beyond a level which can be sustained by the gastroenterology unit.

Mann and colleagues have proposed a scoring system to select patients likely to have 'major' lesions which they claim will improve the cost-effectiveness of an open access endoscopy service.[13] We should also be suspicious, however, of the notion that increasing the rate of detection of serious disease necessarily increases the cost-effectiveness of the procedure. The cost of any intervention has to be seen in the context of the 'cost' to patients in terms of social function and not merely the presence or absence of disease. Costly medications, absence from work, anxiety and family dysfunction may all result from undiagnosed pain, whether or not the patient is in a high-risk group. Mann[13] and his colleagues do not weigh these considerations, nor do they mention the actual cost of the endoscopy service itself.

The annual incidence in general practice of dyspepsia lasting more than two weeks is said to be about 1%,[16] a figure which suggests that about one-quarter of the dyspeptic patients in Andover are referred for endoscopy. The 'average' district general hospital serving a population of 250 000 performs about 500 upper gastrointestinal endoscopies annually;[11] extrapolating from these figures and bearing in mind that the author did not undertake emergency endoscopy for haemorrhage, an annual rate of 105 examinations in a population of 42 000 seems appropriate. It may be that the service is under-used by some doctors and over-subscribed by others.

The majority of requests were for endoscopy on patients who had not had barium-meal examinations. Presumably this suggests that general practitioners perceive endoscopy as the primary investigation for upper abdominal pain and, perhaps, expect an earlier diagnosis from endoscopy than from radiology. As a result, the number of requests for contrast examinations fell considerably during the study period, a finding once again at odds with previous reports.[13,15]

Gear and Barnes did not recognize severe peptic oesophagitis as more than a 'mucosal disease'.[16] The importance of oesophageal mucosal lesions and disordered motility as causes of chest pain are well recognized,[17,18] and Gibson and colleagues[2] have recently drawn attention to the poor correlation between 'heartburn' and the site and severity of the peptic lesion. In the Andover patients, oesophagitis of varying severity accounted for 28% of positive endoscopies and 18% of positive endoscopies in the patients with barium-negative dyspepsia. The high pick-up rate of oesophagitis in this series may be due to the short delay between the general practitioner's decision to investigate a dyspeptic patient and the performance of the endoscopy. Recognition of oesophagitis is important because the possible pathogenic contribution of bile reflux in this condition[19] may have therapeutic implications.[20]

The difference between patients with major and minor lesions is comparable with other reports[13,14] and compatible with the suggestion that it may be possible to reserve investigations for

patients meeting certain clinical criteria, without 'missing' serious pathology.

The service has been well used and appears to be useful. Does this mean that the provision of open access to endoscopy as well as to radiology is appropriate? Direct access to endoscopy saves the costs of at least one outpatient consultation but utilizes other scarce resources. Cost-benefit analysis would require some measurement of the consequences of not investigating patients who fall into 'low-risk' categories and the implications, for doctor and patient, of a 'negative' endoscopy. Prospective comparisons of open-access and 'selective' access endoscopy services would answer some of these questions.

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