

ORIGINAL ARTICLE

Audit of a nurse endoscopist based one stop dyspepsia clinic

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As a response to the UK Health Department's "two week cancer wait" initiative a one stop dyspepsia clinic based on a nurse endoscopist was introduced, and the first 100 cases attending this clinic have been audited. After referral on a purpose designed form, patients were assessed by a gastroenterologist and then investigated at the same visit—where possible and appropriate—by endoscopy or ultrasound scan. All endoscopies were performed by a trained nurse specialist.

Of the 100 patients, 84 were gastroscopied the same day and 11 had an ultrasound scan. Inappropriate tests were avoided in 16% of referrals. The commonest endoscopic diagnoses were minor oesophageal or gastroduodenal inflammation (64% of gastroscopies). Only six oesophageal or gastric cancers were found—all at an advanced stage—and three further malignancies were diagnosed. Only a minority (12%) of the patients with "alarm symptoms" had cancer. The waiting time for an appointment rose progressively during the first six months of the clinic.

The system was popular with patients as most of them (70%) were dealt with at a single hospital attendance. Basing the endoscopy practice on a trained nurse specialist not only facilitated the creation of the service by maximising the use of scarce resources, but also improved communication and overall management of patients.

Dyspepsia is common in Western societies and affects 23%–41% of the population, of whom about one quarter seek medical advice.¹ It is generally accepted that upper gastrointestinal endoscopy is the most sensitive tool for the investigation of dyspepsia, although it may not always be necessary or appropriate.² About 1% of the UK population is referred for gastroscopy each year.³ In many endoscopy units the numerical burden of such referrals has led to long waiting times for tests to be carried out.

Gastroscopy services open to direct access by primary care physicians were set up in many UK hospitals in the 1980s with the aims of reducing overall waiting times for investigation and shortening the time to diagnosis for serious clinical conditions. While such direct access services may lead to rationalisation of drug treatment in primary care and to reduced later consultation behaviour,⁴ it is debatable whether they have improved the pick-up rate for gastric cancer at an early and curable stage.⁵ It has been suggested that extra benefits may accrue if a specialist consultation precedes investigation of dyspeptic subjects.⁶ In consequence, one stop dyspepsia clinics have been proposed, where a consultation is immediately followed by endoscopy or other investigations as judged necessary.⁷ Such services may avoid inappropriate investigation, are cost effective, and are popular with general practitioners (GPs) and with patients.⁸ This kind of clinic may also be a useful way of achieving the target set by the UK Department of Health that all patients with suspected upper gastrointestinal cancer will be seen by a specialist within two weeks of a decision to refer by their primary care physician.⁹ However, in England the demand for gastrointestinal endoscopy is beginning to exceed the availability of trained physicians to perform these procedures. An effective service may be achievable if nurse endoscopists are trained to supplement the present work force.¹⁰

The above arguments led to the introduction in our hospital of a one stop dyspepsia clinic, where the patient assessment could be performed by a specialist gastroenterologist and appropriate investigations carried out at the same visit, upper gastrointestinal endoscopy being performed by an experienced nurse endoscopist.

SUBJECTS AND METHODS

The first hour of a weekly gastrointestinal outpatient clinic was set aside to assess patients referred with dyspepsia. There was no restriction on access to this clinic by age or symptomatology, although it was hoped that GPs would select patients for the service with "alarm symptoms" and these were recorded if present. A special referral form was used; this form had been designed during a pilot study involving four local GP practices and had been agreed by representatives of the relevant primary care trust before the new clinic was introduced. All patients were asked to attend having starved for a minimum of six hours and were advised to be accompanied by a friend or relative. H₂-blocking drugs or proton pump inhibitors had to be stopped at least two weeks before the appointment.

During the one stop session, each of two consultant gastroenterologists would see four patients referred with dyspepsia. After a full evaluation by the specialist, blood tests, abdominal ultrasound scan, and upper gastrointestinal endoscopy were performed at the same visit if indicated. All endoscopies were carried out by a nurse endoscopist (EM), who had been trained using a protocol designed to correspond with the British Society of Gastroenterology guidelines and approved by the employing NHS trust. This nurse had been performing endoscopy lists unsupervised, but with advice available if needed, for over two years before the one stop clinic was instituted and one of the physicians in the outpatient department could review the gastroscopy findings immediately if necessary. Patients were given the choice of having their gastroscopy with or without intravenous sedation. In sedated patients, intravenous midazolam was administered by the nurse endoscopist according to an agreed protocol. All sedated patients received supplementary oxygen via a nasal cannula and were monitored by pulse oximetry during and after the procedure.

Where feasible, patients were informed of the results of their investigations as soon as these had been completed. This information was usually given to the patients and relatives in

the endoscopy unit by the nurse specialist during time specifically set aside for this purpose at the end of the morning list. Where it was felt appropriate—and particularly when cases of cancer had been found which were to be referred to the hospital's multidisciplinary management team—the relevant consultant gastroenterologist could also be involved in the discussion as the rest of the outpatient clinic was finished by this time. In our trust the nurse endoscopist has an extended role which includes organisation and supervision of the patient care pathway for the upper gastrointestinal cancer multidisciplinary team.

In straightforward cases the nurse endoscopist would return the patient to their primary care physician for continued treatment. In more complex situations, or where further hospital tests were thought to be necessary, a management plan was formulated after discussion between the nurse specialist and the consultants involved. Every patient attending the one stop clinic was sent a questionnaire two weeks later to assess his or her view of the service.

Data from the first hundred consecutive attendees were collected and analysed for the study.

RESULTS

The first 100 cases were seen between November 1999 and April 2000. There were 48 men and 52 women and their ages ranged from 15–84 (median 59 years). A further five patients failed to attend the clinic during this period, four patients cancelled their appointments, and one was admitted to hospital elsewhere.

After assessment in the outpatient department, three of the 100 cases were judged to have been referred to the service inappropriately and were returned to their GP without any tests. The symptoms in a further three patients had resolved by the time of their appointment and the only investigation performed was a helicobacter breath test. Eighty four patients were gastroscopied on the same day as their clinic appointment and 11 had an abdominal ultrasound scan; nine of these latter cases had both tests performed. Three patients were judged to be unfit for endoscopic examination; a further subject had not stopped proton pump inhibitor treatment and was recalled for gastroscopy on a later date. One patient with iron deficiency anaemia was thought to need both gastroscopy and colonoscopy, and these were again arranged at a single later visit. The investigations arranged through the one stop service are summarised in fig 1.

Gastrosopies

Of the 84 gastroscopies performed during the first attendance, 10 were completely normal. The most common abnormal findings were oesophagitis in 30 patients (35.7%) and minor redness of the gastric or duodenal mucosa in 24 patients (28.6%). Four patients (4.8%) were found to have peptic ulceration (one duodenal ulcer and three benign gastric ulcers). Only six cases (7.1%) of oesophageal or gastric cancer were detected; all of these were clearly at an advanced stage. Other miscellaneous minor abnormalities were found in 10 subjects; these comprised six cases with uncomplicated hiatus hernias, one Barrett's oesophagus, one small oesophageal ulcer, one gastric polyp, and one case of gastric erosions.

There were no immediate or late endoscopic complications, defined as adverse effects which necessitated intervention.¹¹

Of the 84 same day gastroscopies, 43 were performed under conscious sedation using intravenous midazolam in a dose of 3–6 mg (median dose 4 mg) and 41 were carried out using topical lignocaine spray only. The reversal agent flumazenil was routinely available but was never required in the sedated subjects.

Ultrasound scans

Six same day ultrasound scans were normal. Two showed gallstones, one a pancreatic cancer, one showed evidence of

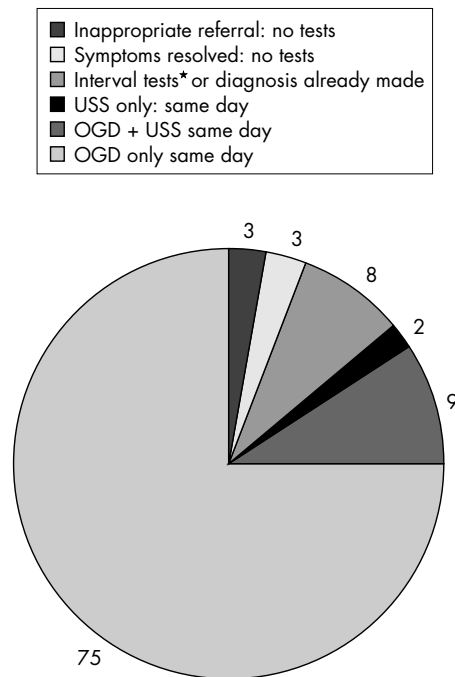


Figure 1 Investigations arranged through the one stop service; *three patients unfit for one stop tests, one on proton pump inhibitor, one colonoscopy required + gastroscopy (OGD), one gallstones on GP ultrasound (USS), one declined OGD (referred for barium meal), one probably functional symptoms.

chronic liver disease, and one a possible pancreatic abnormality in an alcoholic patient. One patient had an ultrasound booked by the GP before their clinic appointment and this too showed gallstones; no further tests were arranged.

Later investigations

Seven patients of the eight shown in the starred section of fig 1 were listed for later investigations. One had had a recent coronary bypass graft; a gastroscopy performed later showed helicobacter negative gastritis only. A second proved to have malignant ascites caused by a peritoneal mesothelioma. A third had chronic obstructive pulmonary disease and died before gastrointestinal tests were performed. One patient with anaemia and an abdominal mass was confirmed as having a colorectal cancer when colonoscoped. The patient who declined endoscopy and was referred for a barium meal had a possible duodenal ulcer and was referred back to the GP for treatment. The case with probable functional symptoms had a normal barium x ray, and the patient taking the proton pump inhibitor defaulted when booked for a later gastroscopy.

Alarm symptoms

Forty two patients were referred with "alarm symptoms" such as weight loss, dysphagia, anaemia, or vomiting. Four of these had gastric cancer and one a cancer at the oesophagogastric junction. One patient who proved to have oesophageal carcinoma and one with a palpable caecal tumour had no alarm symptoms indicated by the referring primary care physician.

Waiting times for the clinic

When the one stop clinic was started the waiting time for an appointment was only eight days. Figure 2 shows that, as the system became established, the delay before a patient could be seen increased progressively. The median wait throughout the study for a one stop appointment was 16.5 days with a range of 1–77 days.

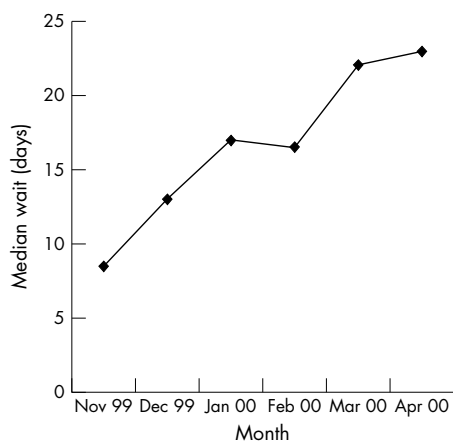


Figure 2 Median wait for clinic appointment.

Patient follow up

Seventy per cent of patients were returned to primary care after a single clinic visit. The patients with malignancy were fast tracked into existing multidisciplinary systems for cancer management within the trust. Patients with biliary pain were referred for surgical advice and the cases of chronic liver and pancreatic disease were followed up in the gastrointestinal outpatient department after appropriate assessment. One patient taking a proton pump inhibitor was recalled for an interval gastroscopy off treatment but failed to attend and the subject with anaemia and a caecal mass had an interval colonoscopy. The three patients with gastric ulcers had repeat endoscopies to check for healing after treatment. The remaining cases each had one further clinic visit to check histology findings where the endoscopic diagnosis was uncertain.

Patient satisfaction survey

Sixty four of the hundred patients returned the questionnaire. Ninety five per cent of these confirmed that they had received written information about their hospital visit with the appointment letter and 98% were satisfied with the details provided. Eighty three per cent of the responders felt that having all their tests on the same day was of benefit; the remainder expressed no view on this question. Of the gastroscopy patients, 94% considered that they had received enough information to decide whether or not to have the test under sedation and only 3% regarded the information as inadequate. Eighty one per cent of the responders regarded the explanation of their management in the outpatient clinic as satisfactory compared with 91% of the patients attending ultrasound and all the patients seen on the endoscopy unit. Only seven patients felt that they could not ask questions about their management in the outpatient department and one in the ultrasound department, while all of the responses implied that questions were fully dealt with during and after the gastroscopy. Free comments were invited at the end of the survey questionnaire and the overwhelming majority of these were strongly in favour of the one stop clinic system.

DISCUSSION

It is clear that a one stop clinic system on the above lines is popular with patients and addresses many of their concerns about the rapid assessment of a common medical condition. However, it is equally clear from the above data that the majority of cases seen in the first five months after this service was initiated either had no pathology on investigation or only minor inflammatory disease of the oesophagus or stomach. The preliminary consultation with a gastroenterological physician avoided inappropriate tests in 16% of the referred patients and it is arguable that a proportion of the remaining

subjects could have been treated empirically on the basis of their symptoms without detailed investigation other than perhaps a non-invasive screening test for helicobacter. During the study, only six cases of oesophageal or gastric cancer were found and three other malignancies. From a population of 300 000, one would expect a district general hospital to deal with about 40 oesophagogastric tumours in this period,¹² and the majority of such cancers are probably being identified through other channels such as direct access endoscopy lists. Hence the one stop clinic as currently formulated is open to the criticism that its productivity in detecting serious disease is low. Furthermore, the large excess of minor disorders referred through the system has inevitably overloaded the capacity of the clinic and resulted in increased waiting times for appointments and consequently in an inability to fulfil the present initiative directed towards the early detection of cancer cases.

In one sense, the productivity of this system could be improved by concentration on so-called alarm symptoms. However, such symptoms are usually late manifestations of gastrointestinal malignancy. It is well recognised, for example, that early gastric cancer—that is, malignant change confined to the gastric mucosa and submucosa and amenable to cure in a high proportion of cases—frequently has exactly the same symptoms as benign gastroduodenal disease. Such symptoms may have been present for years, and even investigated in the past, before the diagnosis of a tumour is made.⁵ Consequently, a concentration on what is regarded as significant symptomatology might increase the pick-up rate for advanced cancer and fulfil current administrative requirements in terms of cancer diagnosis, but is unlikely to improve patient outcomes in terms of curing localised disease. The availability of direct access gastroscopy in most UK endoscopy units may have improved the detection of potentially curable gastric cancer in some hospitals¹³ but has not changed the very small pick-up rate in other large units.⁵

The waiting time for a one stop clinic appointment was less than one week at the start of this study, but after six months the median delay before a patient could be seen had risen to over three weeks. This is still much shorter than the routine wait for a gastroscopy in our unit (approximately 11 weeks), although urgent cases—and particularly those currently referred on the “two week cancer referral” form—are seen much earlier. The provision of a trained nurse endoscopist has facilitated the creation of the one stop service and will be important in its evolution and refinement in the future. There is a nationwide shortage of skilled endoscopists and the training of nurse specialists to fill this role seems both appropriate and essential.¹⁴

There is a dearth of published information about nurse practitioner collaborative practice in upper gastrointestinal endoscopy. More experience exists in respect to flexible sigmoidoscopy, where no significant difference has been found in diagnostic accuracy between trained nurses and physician endoscopists performing the procedure.¹⁵ Nurse practitioners can be trained to be competent in flexible sigmoidoscopy within one month.¹⁶ When gastroenterology nurses were compared with medical residents, no difference was found in learning the skills involved with flexible sigmoidoscopy.¹⁷ There is evidence that the introduction of nurse endoscopists and the institution of collaborative practice between physicians and such specialist nurses may improve the quality, continuity, and cost effectiveness of patient care.¹⁸

A recent UK report recommends that patients with upper gastrointestinal cancer should be managed by a specialist team.¹⁹ The clinical nurse specialist or nurse endoscopist can perform a central role in such teams, including not only investigative and nursing care but also ensuring continuity of support and information for patients and their relatives, and efficient liaison with primary care services.²⁰

Although the one stop dyspepsia clinic in our hospital has not, to date, achieved its original intention in terms of the rapid detection of important pathology, it has allowed the development of an integrated diagnostic service involving specialist physicians and a skilled nurse endoscopist. The system is popular with patients and provides the basis for a fast track system to assess patients at a single hospital visit. Modifications to the protocol are currently in train which should raise the diagnostic yield and increase the rapidity with which selected cases can be investigated and treated. These changes have been discussed at an open meeting for GP colleagues and the impact of these alterations will be reaudited.

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