Urgent cancer referral guidelines: a retrospective cohort study of referrals for upper gastrointestinal adenocarcinoma

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SUMMARY

Dyspepsia in primary care is common and guidelines indicate that patients with alarm symptoms, as defined by the urgent cancer referral guidelines, should be investigated by gastroscopy. The specificity and sensitivity of alarm symptoms is poor and only a small percentage of patients will turn out to have malignant disease. This primary care study shows that employing current guidelines will identify only 72% of patients at their initial visit to a general practitioner, but this figure could be increased to 86% if the guidelines included patients with weight loss or anaemia in the absence of dyspepsia. Past performance indicates that the majority of patients with the commonest symptom complex were not referred quickly and less than half were seen within 4 weeks.

Keywords: *adenocarcinoma; diagnosis; gastrointestinal diseases; referral; upper gastrointestinal tract.*

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Introduction

IN *The NHS Cancer plan*,[1] the United Kingdom government introduced urgent cancer referral guidelines (the '2-week rule') to ensure that everyone with suspected cancer would be referred to a specialist by their general practitioner (GP) and seen within 2 weeks of the referral date.[2] In June 2000 guidelines were issued to general practitioners highlighting the symptom complexes experienced by patients with upper gastrointestinal (UGI) malignancy,[3] but the evidence base is acknowledged to be poor[4,5] and data from hospital studies suggest that nearly all patients with UGI malignancy will have 2-week rule symptoms.[6]

The aim of this study was to examine referral practice and outcome, utilising the 2-week rule criteria for all patients diagnosed as having UGI adenocarcinoma during the 10-year period 1991–2001 in order to identify what proportion of patients fulfilled the 2-week rule criteria, and to determine how primary care had managed these patients before referral.

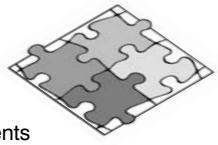
Method

All patients with UGI adenocarcinoma (excluding pancreatic) diagnosed in the South Tees Health Authority area, where a single endoscopy unit serves the entire population, were identified from the hospital computerised pathology database for the period April 1991–April 2001. Completeness of the data was verified with the regional cancer registry (NYCRIS). Primary care records were reviewed with respect to the government's urgent cancer referral guidelines and data analysed using parametric methods for normally distributed continuous data (*t*–test, ANOVA) and non-parametric methods (χ^2, Kruskal–Wallis) for categorical and non-normally distributed data.

Results

A total of 747 patients were identified, of whom 685 (92%) were included in the study. Of those excluded, the majority (35) did not have a primary gastric or oesophageal adenocarcinoma. A total of 494 (72.1%) patients fulfilled the 2-week rule criteria in terms of symptoms at the initial consultation with the GP (Table 1). The largest group of patients fulfilling the 2-week rule criteria were those aged 55 years and over, with dyspepsia or epigastric pain for less than 1 year, with continuous symptoms since onset (n = 244, 40.1%). The mean time to referral was 6.7 weeks (range within 1–174 weeks) with 68 (27.9%) being referred immediately to secondary care, increasing to 119 (48.8%) by 4 weeks. The second largest group comprised patients with

HOW THIS FITS IN



What do we know?

Dyspepsia in primary care is common and recent guidelines indicate that patients with alarm symptoms should be investigated.

What does this paper add?

This primary care study shows that employing current guidelines will identify only 72% of patients at their first visit to a general practitioner, but if the guidelines included patients with weight loss or anaemia in the absence of dyspepsia this figure could be increased to 86%.

dysphagia (n = 115) of whom 80 (69.6%) had this as the main presenting symptom. Dyspepsia associated with anaemia accounted for 14 (3.8%) patients. Nine patients (2.4%) had an epigastric mass. Twenty patients presented with acute bleeding. Patients referred quickly from primary care were seen more quickly in hospital (Spearman rank correlation coefficient = 0.79, $P<0.05$). Males were more likely to fit the 2-week rule (P = 0.022) and females were significantly older ($P<0.001$).

There were 191 (27.9%) patients who did not fit the major urgent referral criteria for suspected UGI malignancy at the first consultation in primary care (Table 2). The mean time to referral was 7.1 weeks (range within 1–137 weeks) with 75 (39.3%) being referred immediately to secondary care,

Table 1. Details of patients' symptoms shown along with the time taken for the general practitioner (GP) to refer the patient to a specialist or open access gastroscopy.

2-week rule criteria (mutually exclusive)	Mean time from GP consultation to referral in weeks (range)	% referred within 4 weeks	Mean time from referral to appointment in weeks (range)	% seen within 2 weeks	% seen within 4 weeks
Total (n = 494)[a]	6.7 (1–174)	65.4	2.6 (1–30)	46.4	71.9
Aged >55 years with dyspepsia/heartburn/ reflux <1 year duration (n = 244)	10.8 (1–174)	48.8	2.8 (1–17)	39.3	66.8
Aged >55 years with GI bleeding first symptoms dyspepsia/reflux/epigastric pain (n = 29)	0.2 (1–5)	96.6	0.6 (1–9)	89.7	93.1
Dysphagia (n = 115)	2.4 (1–120)	86.1	2.5 (1–18)	44.3	78.3
Dyspepsia or epigastric pain with weight loss (n = 49)	1.6 (1–10)	83.7	3.0 (1–22)	46.9	67.3
Dyspepsia or epigastric pain with past history of gastric surgery/ Barretts oesophagus/dysplasia (n = 23)	6.9 (1–24)	43.5	3.1 (1–9)	43.5	60.9
Dyspepsia or epigastric pain with anaemia (n = 14)	5.8 (1–30)	71.4	2.5 (1–11)	64.3	78.6
Dyspepsia or epigastric pain with vomiting (n = 11)	6.6 (1–34)	54.5	3.7 (1–30)	72.7	72.7
Palpable mass (n = 9)	0.1 (1)	100	1.0 (1–3)	66.7	100

[a]Men n = 338 (68.4%), women n = 156 (31.6%). GI = gastrointestinal.

Table 2. Details of patients' symptoms shown along with the time taken for the general practitioner (GP) to refer the patient to a specialist or open access gastroscopy.

2-week rule did not apply	Mean time from GP consultation to referral in weeks (range)	% referred within 4 weeks	Mean time from referral to appointment in weeks (range)	% seen within 2 weeks	% seen within 4 weeks
Total (n = 191)[a]	7.1 (1–137)	62.3	2.8 (1–18)	49.2	69.6
Aged <55 years with dyspepsia/heartburn /reflux or epigastric pain (n = 31)	17.7 (1–137)	32.3	4.1 (1–18)	32.3	61.3
Aged >55 years with dyspepsia or heartburn/ reflux or epigastric pain >1 year (n = 16)	26.9 (1–126)	12.5	4.6 (1–13)	37.5	43.8
Weight loss, no upper GI symptoms (n = 53)	2.5 (1–20)	69.8	2.4 (1–16)	45.3	75.5
Anaemia, no upper GI symptoms (n = 31)	2.8 (1–40)	77.4	2.6 (1–13)	48.4	67.7
Dyspepsia or epigastric pain with anorexia (n = 15)	4.1 (1–14)	60.0	1.7 (1–8)	66.7	86.7
Fatigue and/or lethargy (n = 15)	4.0 (3–5)	80.0	1.5 (1–3)	53.3	73.3
Chest pain and/or breathlessness (n = 10)	3.0 (1–21)	80.0	3.0 (1–12)	60.0	60.0
Collapse (n = 9)	1.1 (1–5)	88.9	1.0 (1–5)	77.8	77.8
Nausea and vomiting (n = 8)	1.3 (1–3)	100.0	3.0 (1–18)	75.0	75.0
Lower abdominal pain (n = 3)	3.0 (1–5)	66.7	1.0 (1–3)	66.7	100.0

[a]Men n =113 (62.0%), women n =78 (38.0%). GI = gastrointestinal.

increasing to 119 (62.3%) by 4 weeks. Almost half (49.2%) were seen within 2 weeks and 69.6% by 4 weeks. The majority of these patients subsequently developed symptoms fitting referral criteria. There were 53 patients (16.8%) with weight loss but no UGI symptoms at initial consultation. Patients without UGI symptoms but with anaemia accounted for 31 patients (9.8%). There were 14 emergency admissions with severe anaemia but no GI symptoms. Thirty-one patients aged 55 years or under presented with benign symptoms (dyspepsia or epigastric pain alone). Almost all (93.5%) had symptoms for less than 1 year and 45.2% had symptoms for less than 1 month prior to consulting their GP. Time to referral ranged from 1–137 weeks (mean = 17.7 weeks) but only 6 patients (19.4%) had worrying symptoms at the time of referral.

Discussion

The aim of this study was to assess the robustness of the current referral guidelines, viewed from the primary care perspective. At present, the evidence for identifying 2-week rule patients comes from hospital-based studies based on symptoms present in patients found to have malignancy on gastroscopy.[4,5] The percentage of cancer patients presenting with alarm symptoms in primary care is estimated to be close to 100%, but this is largely based on symptoms at endoscopy.[6,7] It is clear that, prior to the new guidelines, less than half of all patients with alarm symptoms were referred within 4 weeks, indicating a high referral threshold.

In this series the largest group not fulfilling the new UGI urgent referral guidelines were patients with weight loss but no UGI symptoms (n = 53) or patients below 55 years of age with benign symptoms (n = 31). Only a third of patients in the latter group were referred by 2 weeks and one-third seen by 2 weeks. Although weight loss or anaemia without GI symptoms represented 44% of those not meeting the guidelines GPs felt that UGI malignancy was a possibility and hence referred patients with the same degree of urgency as those with 2-week rule criteria. Our results indicate that younger patients (45–55 years of age) and those with early disease and simple dyspepsia will be disadvantaged by the new guidelines.[8,9] Unexplained weight loss or iron deficiency anaemia in the absence of UGI symptoms account for 12.3% of patients and should be considered for inclusion in any new guidance. Elderly patients with new onset dyspepsia should be followed up closely in primary care in case alarm symptoms develop, and referred urgently if symptoms fail to settle. Clearly, this study lacks the denominator to be sure that adopting these new strategies would not lead to an increase in urgent referrals with little improvement in the overall delay in diagnosis. Even allowing for this, our findings indicate that the current referral guidelines will not identify one in seven patients with UGI adenocarcinoma at their initial GP visit.

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