The Royal College of Surgeons of England

COLORECTAL

Ann R Coll Surg Engl 2009; **91**: 106–109
doi 10.1308/003588409X359114

Referral letters for 2-week wait suspected colorectal cancer do not allow a 'straight-to-test' pathway

MM ALJARABAH, NR BORLEY, AJ GOODMAN, JMD WHEELER

Department of Gastrointestinal Surgery, Cheltenham General Hospital, Cheltenham, UK

ABSTRACT

INTRODUCTION Some clinicians have argued that 2-week wait suspected colorectal cancer patients can go 'straight-to-test' to facilitate time to diagnosis and treatment. The aim of this study was to evaluate whether the currently used referral letters are reliable enough to allow that pathway.

PATIENTS AND METHODS General practitioner (GP) letters referring patients under the Two Week-Wait Rule for suspected colorectal cancer were prospectively reviewed over a 6-month period. Three examining consultants were asked to outline the tests they would perform having only read the letter, and then again after a clinical consultation with the patient. The outcome of these tests was tracked.

RESULTS A total of 217 referral letters of patients referred under Two Week Wait Rule for suspected colorectal cancer were studied. Having just read the referral letter, the most frequently requested test was colonoscopy (148), then CT scan (48), barium enema (44), followed by gastroscopy (23) and flexible sigmoidoscopy in 15 patients (some patients would have had more than one test requested). After consultation with the patients, tests requested as guided by the GP letter were changed in 67 patients (31%), where 142 colonoscopies, 61 CT scans, 37 barium enemas, 23 flexible sigmoidoscopies and 19 gastroscopies were organised. The referral indication which had tests changed most often was definite palpable rectal mass (67%), while patients referred with definite palpable right-sided abdominal mass had their tests least often changed (9%). A total of 22 patients were found to have colorectal cancers (10%) and 30 patients were diagnosed with polyps (14%). Out of 142 colonoscopies performed, 19 (13%) showed some pathology beyond the sigmoid colon and of the 23 patients who had flexible sigmoidoscopy initially, only three went on to have colonoscopy subsequently. During the 6-month period of the study, only five breaches of the waiting time targets were recorded (1 to the 31-day target and 4 to the 62-day target).

CONCLUSIONS A significant number of patients would have had tests changed after a clinical consultation. However, only a small number required further investigations having had a consultation prior to their initial investigations. We conclude that 2-week wait suspected colorectal cancer patients should be seen in the clinic first and should not proceed 'straight-to-test'.

KEYWORDS

Two-Week Wait Rule – Colorectal cancer

CORRESPONDENCE TO

Moayad M Aljarabah, Clinical Research Fellow in Surgery, Cheltenham General Hospital, Sandford Road, Cheltenham GL53 7AN, UK
T: +44 (0)8454 223456; F: +44 (0)8454 224199; E: moayad@doctors.org.uk

At present, colorectal cancer is the second most common cancer in women after breast cancer, whereas in men it ranks third after prostate and lung cancer. In 2002, the official figures showed that there were 34,889 new cases of colorectal cancer registered in the UK, and in 2004 the disease killed 16,148 patients.[1–7]

To reduce delays between presentation, diagnosis and treatment, the UK Government has set targets to be achieved by the year 2000 for NHS trusts in England and Wales to ensure that all patients with a suspected colorectal cancer saw a hospital specialist within 14 days of an urgent general practitioner (GP) referral. The official implementation of this Two Week Wait Rule started in July 2000 and trusts were requested to report their compliance to the UK Department of Health on a quarterly basis. Reports for the first quarter of 2005/2006 showed 99.5% compliance of English trusts with this rule.[8]

To implement the Two-Week Wait Rule guidelines, local rapid access referral mechanisms have been developed, including specially designed forms and direct electronic access to out-patient appointments for patients meeting high-risk, pre-specified criteria to be seen by a specialist within 14 days.

Also among the commitments published in September 2000 and within the *National Cancer Plan*, the Department of Health has set more targets relating to waiting times for diagnosis and treatment for patients with suspected cancer including:[9]

1. A maximum of 1 month wait from diagnosis (decision-to-treat date) to first definitive treatment for all cancers by 2005 – the '31-day target'. First definitive treatment was defined as the first intervention which is intended to remove or shrink the tumour.
2. A maximum of 2-month wait from urgent GP referral for suspected cancer to first definitive treatment for all cancers by 2005 – the '62-day target'.

The 31-day target applies to all newly diagnosed cancers regardless of the route of referral, while the 62-day target applies only to patients who are referred through the Two Week Wait Rule referral route.

Studies to emerge so far have shown that the proportion of colorectal cancer patients diagnosed by alternative routes was more than those diagnosed using the Two Week Wait Rule. A study conducted in Portsmouth has shown that 74% of 249 cases of colorectal cancer were diagnosed by a route other than the Two Week Wait Rule clinics.[10] The diagnostic yield for this route is not good either. Although higher than the final diagnostic yield obtained via routine clinics (2%), a systematic review of studies performed in England and Wales showed that, out of 2440 patients referred using the Two Week Wait Rule, only 10.3% were subsequently diagnosed with colorectal cancer.[11] The predictive value of symptoms and risk factors in the current

Table 1 The indications for referral, tests requested as guided by the GP letter, and tests requested after consultation with the patient

Indication for urgent referral	Rectal bleeding with a change in bowel habit to looser and/or increased frequency of defecation persistent for 6 weeks
Tests based on GP letter	Flexible sigmoidoscopy(3), colonoscopy (46), CT scan (11), barium enema (2)
Tests requested after consultation	Flexible sigmoidoscopy(5), colonoscopy (42), CT scan (14), barium enema (3)
Patients with changed tests	15 of 51 (29%)
Indication for urgent referral	Rectal bleeding persistently without anal symptoms (soreness, discomfort, itching, lumps, and prolapse as well as pain)
Tests based on GP letter	Flexible sigmoidoscopy(10), colonoscopy (31), CT scan (3), barium enema (1)
Tests requested after consultation	Flexible sigmoidoscopy(8), colonoscopy (31), CT scan (4), barium enema (2)
Patients with changed tests	10 of 42 (24%)
Indication for urgent referral	Change in bowel habit to looser stools and/or increased frequency of defecation without rectal bleeding and persistent for 6 weeks
Tests based on GP letter	Flexible sigmoidoscopy(2), colonoscopy (28), CT scan (8), barium enema (41)
Tests requested after consultation	Flexible sigmoidoscopy(4), colonoscopy (34), CT scan (16), barium enema (31)
Patients with changed tests	26 of 72 (36%)
Indication for urgent referral	A definite palpable rectal (not pelvic) mass
Tests based on GP letter	Flexible sigmoidoscopy(0), colonoscopy (11), CT scan (10), barium enema (0)
Tests requested after consultation	Flexible sigmoidoscopy(5), colonoscopy (5), CT scan (6), barium enema (1)
Patients with changed tests	8 of 12 (67%)
Indication for urgent referral	A definite palpable right-sided abdominal mass
Tests based on GP letter	Flexible sigmoidoscopy(0), colonoscopy (7), CT scan (11), barium enema (0)
Tests requested after consultation	Flexible sigmoidoscopy(0), colonoscopy (6), CT scan (11), barium enema (0)
Patients with changed tests	1 of 11 (9%)
Indication for urgent referral	Iron-deficiency anaemia without an obvious cause (haemoglobin < 11 g/dl or < 10 g/dl in postmenopausal women)
Tests based on GP letter	Flexible sigmoidoscopy(0), colonoscopy (25), CT scan (5), OGD (23)
Tests requested after consultation	Flexible sigmoidoscopy(1), colonoscopy (24), CT scan (10), OGD (19)
Patients with changed tests	7 of 29 (24%)

Two Week Wait Rule referral guidelines is beyond the scope of this paper; our aim was to prove that the current referral letters are not reliable enough to allow patients to proceed 'straight-to-test' without being seen in the out-patient clinic first, as argued by some clinicians.

Patients and Methods

Data were collected prospectively on patients referred to our institution (a district general hospital serving a population of 280,000) with suspected colorectal cancer under the Two Week Wait Rule from April 2006 to September 2006. We asked three examining consultants to outline the test or tests they would have performed based on the referral letter and then again having seen and examined the patient. The indication for referral, tests to be performed based on the GP letter, tests performed after consultation with the patient and the outcome of these tests were recorded. Data collection was complete with no loss of follow-up.

Results

Data were collected on 217 patients with a median age of 73 years (range, 24–94 years). Of these, 72 patients (33.2%) were referred with persistent change in bowel habit without rectal bleeding (Table 1), 51 patients (23.5%) with rectal bleeding with change in bowel habit, 42 patients (19.3%) with rectal bleeding without anal symptoms, 29 patients (13.4%) with iron-deficiency anaemia without an obvious cause, 12 patients (5.5%) with palpable rectal mass and 11 patients (5%) were referred with palpable right-sided abdominal mass.

Tests requested based on the GP letter were changed in 67 patients (31%) after clinical consultation (Table 1). Twenty-six (36%) patients referred with change in bowel habit without rectal bleeding had their tests changed after consultation; tests were also changed in 15 (29%) patients referred with rectal bleeding, with a change in bowel habit, in 10 (24%) patients referred with persistent rectal bleeding without anal symptoms, and in 7 (24%) patients with iron-deficiency anaemia. Tests were changed after consultation in eight (67%) patients referred with palpable rectal mass, and in one (9%) patient with palpable right-sided abdominal mass.

Tracking the results of the tests requested showed that 22 patients (10%) were found to have colorectal cancer and 30 patients were diagnosed with adenomatous polyps (14%). One patient was diagnosed with stomach cancer and one with small bowel cancer. Investigations also showed that one patient had lung cancer and another was diagnosed with urinary bladder cancer.

Nineteen of the 142 colonoscopies performed (13%) showed some pathology proximal to the sigmoid colon; of the 23 patients who had flexible sigmoidoscopy initially, only three (13%) went on to have colonoscopy subsequently (as they were found to have polyps). Patients with failed colonoscopy had barium enema with CT colonography done occasionally. To date, we are not aware of any cancer missed during the follow-up period.

The total number of waiting time breaches recorded was low (2.3%); there were no breaches to the Two Week Wait Rule, one breach to the 31-day rule and four breaches to the 62-day rule (two of these were 'half-breaches', as they were seen initially in one trust and then had their treatment in ours).

Discussion

With an ever increasing demand for urgent referrals to reduce waiting times for diagnosis and treatment, some clinicians have called for the reversal of the traditional sequence of 'consultation first, test second' and suggested that patients should go 'straight-to-test' as the patients' initial encounter with the secondary care.

In 2005, Hemingway *et al.*[12] published the results of a city-wide, protocol-driven investigation of suspected colorectal cancer. In their approach, they replaced the standard referral route of GPs to out-patient clinic with a protocol-driven investigation where, for each symptom or symptom group in their new proforma, a test or tests were allocated to be booked directly by the administration staff; patients with palpable rectal mass were allocated to an out-patient appointment first. The report claimed that, in the pilot stage, all colorectal cancers and 95% of all other diagnoses (no abnormality or benign disease) were reached within 31 days of referral. After full implementation of the protocol, out of 256 patients, all colorectal cancers (19 patients) and 95% of benign diagnoses were reached within 31 days, whereas before the pilot, only 116 of 188 (62%) suspected colorectal cancers referred either under the Two Week Wait Rule or on a 'soon' basis were diagnosed within 31 days of referral.

We have shown that compliance with the waiting-time targets can still be achieved despite seeing patients in the clinic first, with the added advantage of getting the staging work-up and treatment quicker, not to mention the fact that some conditions (*e.g.* piles) can be diagnosed and treated on the first visit to the clinic. We also believe that the 'straight-to-test' pathway will add to the cost of already stretched NHS resources as many patients will get inappropriate initial investigations if referred directly to tests based on a consultation in the primary care. In our study, for example, we found that, out of 12 patients referred with a definite rectal mass, only four were found to have rectal cancer, one had a rectal polyp and seven were found to have a normal rectal examination and tests based on the GP letter were changed

after clinical consultation with the specialist in eight patients (67%) referred with this particular indication. Of the 12 patients who were found to have rectal cancer, four were referred with rectal bleeding with a change in bowel habit, three with rectal bleeding without anal symptoms, two with change in bowel habit without rectal bleeding and only three were referred with a rectal mass.

To prioritise patients referred under the Two Week Wait Rule and to help GPs identify individuals at substantial risk of colorectal cancer, more alternatives to the current referral mechanism have been suggested. A team from Leighton Hospital, Crewe, UK[13] investigated the value of using a specific questionnaire (completed by patients) and a computer-generated risk score in order to prioritise symptoms indicative of possible colorectal disease. Referrals were prioritised with a cancer risk score according to the guidelines by a colorectal surgeon separately for the GP's letter and for the questionnaire. A weighted numerical score was derived from the weighting of the main disease symptoms and symptom complexes and was calculated automatically. The malignancy risk score derived from the patient consultation questionnaire and the weighted numerical score, whilst having a good cancer pick-up rate, resulted in fewer patients being identified at high risk compared with the high-risk grading for the current NHS guidelines. The new system detected nearly all cancers (99%) by investigating just over half (57%) of the patients referred.

Conclusions

This study further highlights that the diagnostic yield of colorectal cancer using the current referral guidelines is low. We also conclude that a significant proportion of patients referred under the Two Week Wait Rule with suspected colorectal cancer would have had their initial tests, as guided by the GP letter, changed after consultation, emphasising that the current referral letters are probably not reliable enough to allow a 'straight-to-test' pathway, and patients are best seen in the clinic first to be allocated the most appropriate tests based on a consultation by the specialists.

References

1. Office for National Statistics. Cancer Statistics Registration: Registrations of Cancer diagnosed in 2002, England.
2. Welsh Cancer Intelligence and Surveillance Unit 2005.
3. ISD Online 2005. Cancer incidence and mortality data.
4. Northern Ireland Cancer Registry 2005. Cancer statistics.
5. General Register Office for Scotland. Death by cause, Scotland 2004.
6. Office for National Statistics. Death by cause, England and Wales 2004.
7. Northern Ireland Statistics and Research Agency, Annual report of the register general 2005. Death by cause, Northern Ireland 2004.
8. Department of Health: Cancer waits QI 2005/06 <www.performance.doh.gov.uk/cancerwaits>.
9. Department of Health. *Referral guidelines for suspected cancer.* London: DH, 2000.
10. Flashman K, O'Leary DP, Senapati A, Thompson MR. The Department of Health's 'two-week standard' for bowel cancer: is it working? *Gut* 2004; **53**: 387–91.
11. Thorne K, Hutchings HA, Elwyn G. The effects of the Two-Week Rule on NHS colorectal cancer diagnostic services: a systematic literature review. *BMC Health Serv Res* 2006; **6**: 43.
12. Hemingway DM, Jameson J, Kelly MJ; Leicester Colorectal Specialist Interest Group Project Steering Committee. Straight to test: introduction of a city-wide protocol driven investigation of suspected colorectal cancer. *Colorectal Dis* 2006; **8**: 289–95.
13. Selvachandran SN, Hodder RJ, Ballal MS, Jones P, Cade D. Prediction of colorectal cancer by a patient consultation questionnaire and scoring system: a prospective study. *Lancet* 2002; **360**: 278–83.