

Prevention, diagnosis and treatment of colorectal cancer

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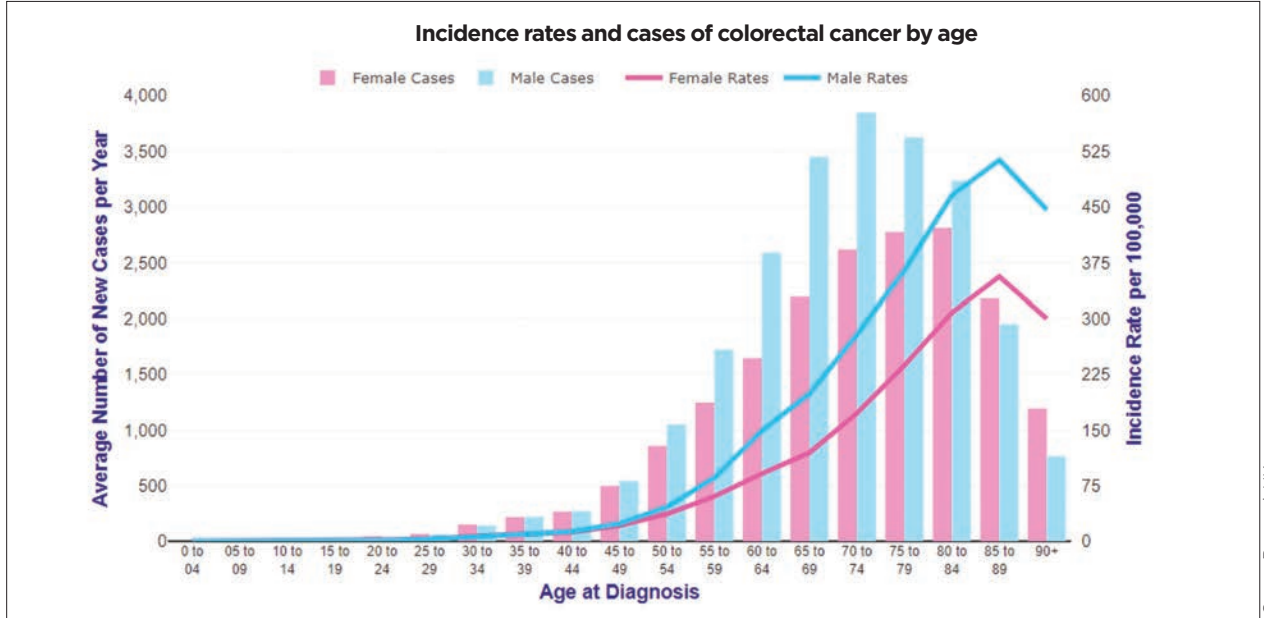


FIGURE 1

Incidence rates and cases of colorectal cancer by age²

How do patients present in primary care?

What are the management approaches?

How should patients be followed up?



AROUND 42,300 CASES OF COLORECTAL CANCER ARE DIAGNOSED ANNUALLY IN THE UK.¹

Colorectal cancer is the third most common cancer in both women and men and is the second most common cause of cancer death in the UK, with around 16,600 recorded deaths per year.¹ The lifetime risk of developing colorectal cancer is 1 in 15 for men and 1 in 18 for women in the UK.¹

RISK FACTORS

The greatest risk factor for colorectal cancer, as with many other cancers, is increasing age. The incidence rate is highest in men in the 70-74 age range, and for women in those aged 80-84 years (see figure 1, above).²

Other risk factors include: family history, the risk of colorectal cancer more than doubles in people with a first-degree relative with the condition; a history of polyps (risk of advanced bowel cancer is increased by 80% in those with low-risk polyps seen on first colonoscopy compared with those

without);³ inflammatory bowel disease (risk increased by 70%).⁴ Individuals with type 2 diabetes have an increased risk of 22-30%.⁵⁻⁹

Impact of lifestyle factors

Modifiable lifestyle factors are thought to be associated with the development of colorectal cancer in 54% of cases.¹ A diet with too little fibre is the main lifestyle risk factor implicated in 28% of cases.¹ There is a 10% decreased risk seen for every 10 g/day total dietary fibre consumed.¹⁰ Processed meat consumption, obesity and overweight, smoking, alcohol and taking too little exercise are other modifiable risk factors.

ROLE OF BOWEL SCREENING

Bowel screening detects both precancerous polyps (adenomas) and presymptomatic colorectal cancer. The screening programme was introduced in England in 2007 and has been estimated to save 2,400 lives per year.^{11,12}

In areas of social deprivation bowel screening engagement is lower and colorectal cancer incidence is higher.

A quality improvement domain in the current Quality and Outcomes Framework in England gives general practices an opportunity to improve the uptake of bowel screening.¹³ Direct contact with those who have not engaged with screening has been shown to increase engagement significantly.¹⁴

With the faecal immunochemical test (FIT) replacing the guaiac faecal occult blood test, the use of flexible sigmoidoscopy in patients aged ≥ 55 has been discontinued. Those patients with a positive FIT result are invited for a colonoscopy.

However, there is an increasing incidence of colorectal cancer in younger adults aged under 50¹⁵ and the American Cancer Society has recently recommended reducing the age for starting bowel cancer screening in the USA to 45 years.

PRESENTATION

The main three symptoms patients with colorectal cancer present with are:¹⁶

- Persistent blood in faeces

- Persistent change in bowel habit
 - Persistent lower abdominal pain
- Less obvious presentations are unexplained weight loss, tiredness for no reason, general malaise and iron deficiency anaemia found on blood testing. There is increasing interest in the role of thrombocytosis; it is recognised that lung, endometrial, gastric, oesophageal and colorectal cancers (LEGO-C) are associated with raised platelet counts.¹⁷ It is also notable that high normal platelet counts in men are associated with increased risk of certain cancers, including colorectal cancer.¹⁸

REFERRAL

The NICE recommendations for urgent referral of patients with suspected colorectal cancer are listed in table 1, below.¹⁹

The recommendations in the Scottish Referral Guidelines for Suspected

Cancer, published in 2019,²⁰ are very similar to those of the equivalent NICE guidelines (NG12).¹⁹

It is important to remember that patients presenting with symptoms that could be caused by colorectal cancer may recently have had a 'normal' screening FIT level (currently set at 120 µg/g in England, 80 µg/g in Scotland and 150 µg/g in Wales).²¹

Most areas in England now have Rapid Diagnostic/Rapid Investigation Services to address non-site specific symptoms, including raised platelet counts, where the symptomatic FIT level is in the normal range. NICE recommends a threshold for referral of 10 µg/g.²²

Where symptom combinations do not 'qualify' for a two-week urgent referral, and if the clinician is concerned, many areas now offer an Advice and Guidance Service, which can facilitate a useful dialogue about how best to manage the

patient. There is also increasing evidence to support the use of FIT testing in symptomatic patients in order to help prioritise subsequent investigations^{23,24} including those with rectal bleeding.²⁵

MANAGEMENT

Local disease

In January 2020, NICE published a clinical guideline on the management of colorectal cancer (NG151) which provides an evidence-based review of treatment options.²⁶ All patients should be discussed in an appropriate colorectal cancer multidisciplinary team (MDT) meeting.

In the management of non-metastatic colon cancer, surgical resection remains the treatment of choice for patients fit enough to be considered for surgery. Minimally invasive surgery (laparoscopic in most cases, robotic in the minority) is generally preferred, although some patients may still require a more traditional, open operation.

Systemic anti-cancer therapy (SACT) will be considered in certain patients after surgery when the tumour analysis shows the presence of high risk factors (e.g. cancer cells present in the lymph nodes or blood vessels).

For early rectal cancers, treatment options include:

- Transanal excision, which includes transanal minimally invasive surgery and transanal endoscopic microsurgery
- Endoscopic submucosal dissection, an advanced technique to remove rectal tumours endoscopically
- Surgery to remove the rectum (total or partial)

Preoperative radiotherapy with or without chemotherapy may be offered to patients with rectal cancer where preoperative MRI suggests the tumour is not at an early stage. Subsequently, laparoscopic excision is the technique of choice, unless an open operation is otherwise clinically indicated (e.g. multiple previous abdominal or pelvic surgery). Some centres are offering robotic surgery.

In those patients with low rectal cancer who appear to have had a complete clinical response (i.e. no tumour is evident) after radiotherapy with or without chemotherapy, the possibility of a watch and wait approach may be considered. In this situation, structured clinical, endoscopic and radiological surveillance is undertaken with the aim to reconsider surgery in the event that the tumour becomes apparent again following this treatment. This approach remains the subject of ongoing research.

Table 1

NICE (NG12) recommendations for referral of patients with suspected colorectal cancer¹⁹

1.3.1 Refer adults using a suspected cancer pathway referral (for an appointment within 2 weeks) for colorectal cancer if:

- They are aged 40 and over with unexplained weight loss and abdominal pain or
- They are aged 50 and over with unexplained rectal bleeding or
- They are aged 60 and over with:
 - Iron deficiency anaemia or
 - Changes in their bowel habit, or
- Tests show occult blood in their faeces

1.3.2 Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for colorectal cancer in adults with a rectal or abdominal mass

1.3.3 Consider a suspected cancer pathway referral (for an appointment within 2 weeks) for colorectal cancer in adults aged under 50 with rectal bleeding and any of the following unexplained symptoms or findings:

- Abdominal pain
- Change in bowel habit
- Weight loss
- Iron deficiency anaemia

1.3.4 Offer testing with quantitative faecal immunochemical tests (see the NICE diagnostics guidance on quantitative faecal immunochemical tests to guide referral for colorectal cancer in primary care) to assess for colorectal cancer in adults without rectal bleeding who:

- Are aged 50 and over with unexplained:
 - Abdominal pain or
 - Weight loss, or
- Are aged under 60 with:
 - Changes in their bowel habit, or
 - Iron-deficiency anaemia, or
- Are aged 60 and over and have anaemia even in the absence of iron deficiency

Patients with locally advanced or recurrent rectal cancer should be discussed by an appropriately experienced MDT in terms of considering specialist treatment, which may involve pelvic exenteration surgery.

Metastatic disease

Where clinically appropriate, surgical resection of the primary tumour may be offered in those felt to have incurable disease, together with SACT. Resection of liver and lung metastases will be considered if felt to be clinically appropriate, in combination with SACT. Where this is not possible for liver and lung metastases, local ablative techniques (e.g. radiofrequency ablation) may be employed. For those with metastases limited to the peritoneum MDTs would consider

referring these patients to their local specialist unit for multimodal treatment comprising SACT and cytoreductive surgery combined with hyperthermic intraperitoneal chemotherapy.

FOLLOW-UP AND MONITORING

For patients who have had potentially curative surgery for localised disease, follow-up for detection of local recurrence and distant metastases will be offered for three years. This will include blood monitoring and CT scanning of the chest, abdomen and pelvis. Surveillance colonoscopy at intervals will also be considered.

Low anterior resection syndrome

All clinicians should be aware of low anterior resection syndrome (LARS), which will affect some of the 268,000

people living with, and beyond, colorectal cancer treatment.²⁷ LARS is seen in some patients who have had sphincter preserving surgery for rectal cancer.

The common symptoms with LARS are increased bowel opening, urgency, incontinence, the feeling of incomplete emptying, fragmentation of bowel opening (small amounts little and often) and difficulty in differentiating between gas and stool. The LARS questionnaire²⁸ (see figure 2, below, left) can be useful in patients who mention any of these symptoms.

A change of diet, laxatives, antibulking agents, antidiarrhoeal agents or antispasmodics may be beneficial. If these interventions are not helpful, advice should be sought from secondary care.

REDUCING INCIDENCE AND IMPROVING OUTCOMES

Prevention remains key. Brief interventions have been shown to be effective across a range of lifestyle behaviours.²⁹ All healthcare teams should be trained and up to date in prevention and brief interventions. Lifestyle behaviour change can reduce the risk of many different conditions, (see Useful information box, p20 for details of an online course).

For the 46% of non-preventable cases, early diagnosis is pivotal. The five-year survival for those diagnosed with colorectal cancer at stage 1 is 91.7%, but at stage 4 it is only 10.3%. It has been estimated that a 10% increase in the number of colorectal cancer cases diagnosed at an early stage (1 and 2) would result in a 4.7% increase in five-year survival.³⁰

Public awareness campaigns have been shown to be effective. This is particularly relevant in addressing the reduction of symptomatic patients presenting to primary care in the UK during the COVID-19 pandemic.³¹

CONCLUSION

Before the pandemic, the five-year survival from colorectal cancer had been improving, but the UK still lagged behind other high income countries.³²

Improvements in surgical techniques and the evolution of SACT including immunotherapies will contribute to improving outcomes and help to address the survival gap seen between the UK and other similar healthcare systems.

Colorectal cancer is one of the four most common cancers (the others being prostate, breast and lung). There is much to do to reduce the



FIGURE 2

The LARS (low anterior resection syndrome) questionnaire²⁸

The LARS Score - Scoring Instructions	
Add the scores from each of the 5 questions to give the total score	
Do you ever have occasions when you cannot control your flatus (wind)?	
<input type="checkbox"/> No, never	0
<input type="checkbox"/> Yes, less than once per week	4
<input type="checkbox"/> Yes, at least once per week	7
Do you ever have any accidental leakage of liquid stool?	
<input type="checkbox"/> No, never	0
<input type="checkbox"/> Yes, less than once per week	3
<input type="checkbox"/> Yes, at least once per week	3
How often do you open your bowels?	
<input type="checkbox"/> More than 7 times per day (24 hours)	4
<input type="checkbox"/> 4-7 times per day (24 hours)	2
<input type="checkbox"/> 1-3 times per day (24 hours)	0
<input type="checkbox"/> Less than once per day (24 hours)	5
Do you ever have to open your bowels again within one hour of the last bowel opening?	
<input type="checkbox"/> No, never	0
<input type="checkbox"/> Yes, less than once per week	9
<input type="checkbox"/> Yes, at least once per week	11
Do you ever have such a strong urge to open your bowels that you have to rush to the toilet?	
<input type="checkbox"/> No, never	0
<input type="checkbox"/> Yes, less than once per week	11
<input type="checkbox"/> Yes, at least once per week	16
Total Score:	_____
Interpretation:	_____
0-20:	No LARS
21-29:	Minor LARS
30-42:	Major LARS

key points

SELECTED BY

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Around 42,300 cases of colorectal cancer are diagnosed

annually in the UK. Colorectal cancer is the third most common cancer in both women and men and is the second most common cause of cancer death in the UK, with around 16,600 recorded deaths per year. The lifetime risk of developing colorectal cancer is 1 in 15 for men and 1 in 18 for women in the UK. The highest number of diagnoses in men are in the 70–74 age range, and for women in those aged 80–84 years.

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The main symptoms patients with colorectal cancer

present with are: persistent blood in faeces; persistent change in bowel habit and persistent lower abdominal pain. Less obvious presentations are unexplained weight loss, tiredness for no reason, general malaise and iron deficiency anaemia found on blood testing. There is increasing interest in thrombocytosis; it is recognised that lung, endometrial, gastric, oesophageal and colorectal cancers (LEGO-C) are associated with raised platelet counts.

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surgical resection remains the treatment of choice for patients fit enough to be considered for surgery. Minimally invasive surgery (laparoscopic in most cases, robotic in the minority) is generally preferred, although some patients may still require a more traditional, open operation. Systemic anti-cancer therapy (SACT) will be considered in certain patients after surgery when the tumour analysis shows the presence of high-risk factors (e.g. cancer cells present in the lymph nodes or blood vessels). For early rectal cancers, treatment options include: transanal excision, which includes transanal minimally invasive surgery and transanal endoscopic microsurgery; endoscopic submucosal dissection, an advanced technique to remove rectal tumours endoscopically; surgery to remove the rectum (total or partial).

All clinicians should be aware of low anterior resection

syndrome (LARS), which will affect some of the 268,000 people living with, and beyond, colorectal cancer treatment. LARS is seen in some who have had sphincter preserving surgery for rectal cancer. The common symptoms with LARS are increased bowel opening, urgency, incontinence, the feeling of incomplete emptying, fragmentation of bowel opening (small amounts little and often) and difficulty in differentiating between gas and stool. A LARS questionnaire can be useful in patients who mention any of these symptoms.

number of preventable cases and enable stage shift at time of diagnosis to reduce both colorectal cancer incidence and mortality.

Competing interests

Dr Richard Roope is the Cancer Research UK (CRUK) Primary Care Adviser, and receives funding from CRUK, and is a member of the Scientific Board for Oncimmune (an unremunerated role). Mr Justin Davies is an elected member of the NICE quality standards committee for colorectal cancer and was topic advisor for the NICE colorectal cancer guidelines (NG151).

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Useful information

Brief interventions

E-learning for healthcare

www.e-learn.org.uk/programmes/making-every-contact-count/

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