Colorectal cancer - advanced disease

MDT discussion to consider inoperable disease, preoperative therapy, and palliative care

Inoperable metastatic disease

Consider palliative care

Surgery

Consider adjuvant chemotherapy

Follow-up - appropriate teams

Refer to palliative care

Go to end of life assessment and planning

Inoperable primary disease

Consider preoperative therapy

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Background information

Information resources for patients and carers

Updates to this care map

Note: this care map is currently under local review within Derbyshire

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This care map was published by . A printed version of this document is not controlled so may not be up-to-date with the latest clinical information.
1 Background information

Quick info:

Scope:
- presentation, investigation, staging, and management (including surgical and adjuvant chemo- and radiotherapy) of colorectal cancer, in adults and the elderly
- primary and secondary care settings

Out of scope:
- screening and detection
- end of life care (see ‘End of life care in adults’ care map)
- management of Familial Adenomatous Polyposis (FAP), Hereditary Nonpolyposis Colon Cancer (HNPCC)
- previous cancer
- anal cancer

Definition:
- most cases of colorectal cancer evolve from polyps (outgrowths of the bowel wall)
- a malignant polyp is defined as cancer if it invades the muscularis mucosae and penetrates the submucosa

Incidence and prevalence:
- in the UK:
  - colorectal cancer is the third most common cause of cancer related deaths [1]
  - approximately 100 new cases of colorectal cancer are diagnosed each day [1]
  - 5 year survival rates are approximately 45% [2]
  - 50-60% of patients diagnosed with colorectal cancer will develop metastases [3]

Preventative factors:
- pharmacological interventions:
  - studies have indicated a protective role of the following drugs in the development of colorectal cancer:
    - non-steroidal anti-inflammatory drugs (NSAIDs), eg aspirin
    - cyclo-oxygenase-2 inhibitors
    - NSAIDs and cyclo-oxygenase-2 inhibitors are associated with cardiovascular events and gastrointestinal (GI) harm
    - long-term follow-up studies are required to establish the effects of less frequent doses and lower doses of such interventions
    - hormone replacement therapy (HRT) – benefits should be balanced against the possible risk of breast cancer, stroke, and pulmonary embolism (PE)

Risk factors:
- increasing age
- hereditary disease
- high intake of processed meat and red meat
- low intake of vegetables
- smoking
- obesity (especially men)
- low levels of physical activity
- alcohol consumption
- male population
- history of inflammatory bowel disease (IBD)

References:
Colorectal cancer - advanced disease
Derbyshire local pathways > Oncology > Colorectal cancer


2 Information resources for patients and carers

Quick info:
The following resources have been produced by organisations certified by The Information Standard:
• 'Bowel cancer' (URL) from Bupa at http://www.bupa.co.uk
• 'Bowel cancer (colorectal cancer)' (URL) from Cancer Research UK at http://www.cancerresearchuk.org/
• 'Colon cancer' (URL) from Macmillan Cancer Support at http://www.macmillan.org.uk
• 'Colorectal cancer' (URL) from Datapharm at http://www.medguides.medicines.org.uk
• 'Colon cancer' (URL) from Datapharm at http://www.medguides.medicines.org.uk
• 'Rectal cancer' (URL) from Datapharm at http://www.medguides.medicines.org.uk
• 'Hereditary non-polyposis colorectal cancer (HNPCC)' (URL) from Macmillan Cancer Support at http://www.macmillan.org.uk
• 'Treating rectal cancer' (URL) from Macmillan Cancer Support at http://www.macmillan.org.uk
• 'Colorectal (bowel) cancer' (PDF) from Patient UK at http://www.patient.co.uk
• 'Healthcare services for bowel (colorectal) cancer: Understanding NICE guidelines – information for the public' (PDF) from National Institute for Health and Clinical Excellence (NICE) at http://www.nice.org.uk

Information for carers and people with disabilities is available at:
• 'Caring for someone' (URL) from Directgov at http://www.direct.gov.uk
• 'Disabled people' (URL) from Directgov at http://www.direct.gov.uk

Explanations of clinical laboratory tests used in diagnosis and treatment are available at ‘Understanding Your Tests’ (URL) from Lab Tests Online-UK at http://www.labtestsonline.org.uk

NB: This information appears on each page of this care map.

3 Updates to this care map

Quick info:
Date of publication: 17-June-2011

This care map was created in line with the following references:
4  Note: this care map is currently under local review within Derbyshire

Quick info:
For further information, please contact Anne Hayes, NHS Derbyshire County Public Health Specialist

5  MDT discussion to consider inoperable disease, preoperative therapy, and palliative care

Quick info:
Multidisciplinary team (MDT) discussion to consider [23]:

- inoperable metastatic disease
- inoperable primary disease
- preoperative therapy
- palliative care

Management should be discussed by a MDT; the core MDT should include [1]:

- at least two surgeons with a special interest in colorectal cancer (each surgeon should carry out at least 20 colorectal resections per year)
- an oncologist
• a diagnostic radiologist
• a histopathologist
• a skilled colonoscopist
• clinical nurse specialists (provides support, assistant, and information)
• a palliative care specialist (doctor or nurse)
• a meeting coordinator
• a team secretary

Extended MDT members should include [1]:
• a gastroenterologist
• a liver surgeon
• a thoracic surgeon with expertise in lung resection
• an interventional radiologist
• GPs
• a dietician
• a social worker
• a geneticist or genetic counsellor
• a clinical trial co-ordinator

Discussion should take into account the outcome of preoperative assessment and staging; disease may be considered inoperable depending on [12]:
• staging
• general physical health of patient

Treatment should be given within 31 days of decision to treat being made [1].

References:

6 Inoperable metastatic disease

Quick info:
15-25% of patients with colorectal cancer present with liver metastases, of which 80-90% are initially deemed inoperable [14].

Reference:

7 Inoperable primary disease

Quick info:
Inoperable primary disease [1]:
• is most commonly seen in patients with rectal cancer
• has a poor prognosis

Reference:

8 Consider palliative care

Quick info:
Palliative interventions should be considered to reduce problems associated with advanced colorectal cancer (see ‘End of life care in adults’ care map) [2].

Reference:


9 Consider preoperative therapy

Quick info:
Suitability for chemotherapy depends on [1]:
• performance status
• serum biochemistry
• overall tumour burden

Preoperative chemotherapy is appropriate for [14]:
• borderline resectable cases
• initially unresectable case, if treatment has the potential to convert the lesion to resectable

Advantages of neoadjuvant chemotherapy include [14]:
• treatment of micrometastases
• determination of response to chemotherapy, if chemotherapy is to be considered postoperatively
• avoidance of local therapy

Surgical evaluation should be planned 2 months after initiation of preoperative chemotherapy, and every 2 months thereafter if the patient continues to receive preoperative chemotherapy [14].

Surgery should be performed [14]:
• as soon as possible after the patient becomes resectable
• not usually more than 3-4 months after initiation of preoperative chemotherapy

References:


10 Consider palliative care

Quick info:
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Reference:


11 Consider preoperative therapy

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Suitability for chemotherapy depends on [1]:
• performance status
• serum biochemistry
• overall tumour burden

Consider the following therapeutic agents in an attempt to downsize the primary tumour rendering it operable:
• colon cancer [3,10]:
  • infusional 5-fluorouracil (5-FU), leucovorin, and oxaliplatin with or without bevacizumab or cetuximab [3,4]
  • bolus 5-FU, leucovorin, and oxaliplatin with or without bevacizumab or cetuximab
• capcitabine and oxaliplatin (CapeOx) with or without bevacizumab or cetuximab
  • the addition of bevacizumab to chemotherapy:
    • improves progression-free survival and overall survival [17] in first and second-line therapies, depending on the type of chemotherapy it is associated with [18]
    • improves overall response rate, without compounding the severity of toxicities associated with chemotherapy [17]
    • side effects include increased frequencies of high blood pressure (BP), arterial thromboembolic event, bowel perforation [18]
  • if bevacizumab is included in chemotherapy regime [3]:
    • surgery should take place at least 6 weeks after the last dose
    • re-initiation of bevacizumab regime should occur within 6-8 of surgery
• rectal cancer [14] – consider chemoradiotherapy if the patient is suitable for such an aggressive approach [10]:
  • infusional 5-FU/radiotherapy [10,14]
  • bolus 5-FU with leucovorin/radiotherapy [10,14]
  • capcitabine/radiotherapy [14]
• second-line chemotherapy agents include irinotecan [10]:
  • consider for patients who have progressive disease despite 5-FU treatment; and
  • good performance status, normal liver function tests (LFTs), and no evidence of obstruction

Patient should be reassessed for resection following 2 months of chemotherapy, and every 2 months thereafter [3].

References:

13 Surgery

Quick info:
Patients with liver or lung metastases should undergo synchronised resection or staged resection of the colon and metastatic cancer [3].

Reference:

15 Surgery

Quick info:
Surgical options include:
• complete excision of the mesorectum [1,2,4,10] – associated with low recurrence rates [1,10]
• anterior resection [1,14]
• abdominoperineal excision (APR) [1,4,14]
Colorectal cancer - advanced disease
Derbyshire local pathways > Oncology > Colorectal cancer

• local excision [4,10,14], eg polypectomy, transanal excision [4], transanal microsurgery [14]:
  • can be safely used to treat small pT1 rectal cancers which are:
    • less than 3cm in diameter [1,4,14]
    • well to moderately differentiated [1,4,14]
    • within 8cm of the anal verge [14]
    • limited to less than 30% of the rectal circumference [14]
  • should be followed-up with magnetic resonance (MR) scanning [1]
If the surgeon is in doubt over choice of operation, a second opinion should be sought [1].
Care must be taken to [1]:
  • preserve the autonomic nerves and plexuses [2,10]
  • prevent perforation of the tumour during surgery
It is recommended that lymph node clearance should extend 5cm beyond the distal margin of the rectal cancer [1].
After mesorectal excision [1]:
  • a temporary defunctioning stoma is recommended
  • formation of a colonic should be considered
If the patient has received a stoma [2]:
  • a cancer clinical nurse specialist or a stoma specialist should be available to:
    • assist patients in managing the stoma
    • advise on problems associated areas of concern, including:
      • physical problems
      • social problems
      • sexual problems
      • emotional problems
  • give contact details for support groups
  • they should have access to specialist dietary support and advice
References:

16 Consider adjuvant therapy

Quick info:
Postoperative chemotherapy should be carried out for 6 months [3].
For liver metastases only, consider the following adjuvant therapy options [3]:
  • hepatic arterial infusion (HAI) therapy [4,10,14]
  • HAI therapy with 5-FU/LV [14]
  • continuous intravenous (IV) 5-FU infusion
  • radioembolisation plus yttrium-90 microspheres [14]
  • arterial chemoembolisation [14]
  • conformal external beam radiation therapy [14]

Reference:
Colorectal cancer - advanced disease

17  Consider adjuvant chemotherapy

Quick info:
Postoperative chemotherapy should be carried out for 6 months [3,14].

References:

18  Follow-up - appropriate teams

Quick info:
Short-term follow-up should [2] :
- focus on postoperative problems, future planning, and stoma management
- involve a clinical nurse specialist
- include a complete colonoscopy within 6 months of discharge, if this was not performed before surgery
- include a CT scan of the liver, if this was not performed before surgery

Long-term follow-up aims to [1]:
- detect recurrent disease [4,10]
- detect metachronous tumours (secondary primary cancer in the remaining large bowel)
- provide psychological support [10]
- improve survival rates
- facilitate audits [10]

Follow-up:
- should be carried out by the operating surgeon or associated gastroenterologist, in conjunction with the GP [4]
- should include CT scan [10] of the abdomen and thorax during the first 2 years following resection [1]
- should include colonoscopy [4] at 5 yearly intervals [1,2], if the patient has a polyp-free colon (may not benefit patients with a polyp-free colon with a life-expectancy less than 15 years [2])
- should include carcino-embryonic antigen (CEA) test [14]:
  - every 3-6 months for 2 years; then [4]
  - every 6 months for 5 years
  - if CEA levels are elevated after resection perform colonoscopy, chest, abdominal, and pelvic CT scans [14]
- should include chest X-ray [4]
- with positron emission tomography using fluor-18-deoxyglucose (FDG-PET) has been shown to have high diagnostic value in detecting recurrent colorectal carcinomas [16]

Palliatively-treated patients do not routinely require follow-up [23].

References:
19 Consider palliative care

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Reference:

20 Follow-up

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This document describes the provenance of the Derbyshire Health Community Colorectal cancer care map.

This care map has been localised by Derbyshire Health Community, under the lead of Anne Hayes, NHS Derbyshire County Public Health Specialist. The care map has been reviewed by Derbyshire stakeholders and has been approved by relevant members of the Health Community-wide Clinical Effectiveness and Guideline Group (CEGG).

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The Map of Medicine Editorial Team have undertaken the localisation editing of the care map. The text is based on the Map of Medicine international care map, which was created in line with the Map of Medicine editorial methodology.