2014

Commissioning guide:

Colonic diverticular disease

Sponsoring Organisation: Association of Coloproctology of Great Britain and Ireland
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Glossary

The literature contains many different definitions pertaining to diverticular disease. For the purpose of this document, the following definitions have been used:

Term	Definition
Anastomosis	a surgically-created connection between two pieces of bowel
Colectomy	removal of part of the bowel
Complicated diverticular disease	acute bleeding, or any complication arising as a sequelae of diverticulitis
Complicated diverticulitis	acute diverticular inflammation with an associated abscess, perforation, stricture or fistula
Diverticula (plural)	mucosal pouches in the wall of the colon
Diverticular disease	symptomatic diverticula
Diverticulitis	acute diverticular inflammation
Diverticulosis	asymptomatic diverticula
Diverticulum (singular)	a mucosal pouch in the wall of the colon
Hartmann's	a surgical procedure whereby part of the bowel (the sigmoid colon) is removed and a stoma created
Laparoscopic	'keyhole' surgery
Non-steroidal anti-inflammatory drug	a group of drugs including aspirin, ibuprofen, diclofenac
Stoma	an opening, either natural or surgically created, which connects a portion of the bowel to the outside environment

Introduction

The presence of mucosal pouches ('diverticula') in the wall of the colon is increasingly common with age. Although present in only 10% of people under 40 years of age in the UK, over 50% of the population aged over 50 years are affected, rising to 70% by 80 years of age. About 75% of people with the condition are asymptomatic. When present, symptoms can range from intermittent mild abdominal discomfort through to life-threatening problems such as bleeding and perforation.

Patients with suspected diverticular inflammation (diverticulitis) may be treated at home or in hospital. Treatment is normally with a course of antibiotics, with emergency admission to hospital normally being required if intravenous antibiotics are required. With more severe infections, acute complications such as bowel perforation or abscess formation may result. Some of these patients require emergency surgery. This commonly involves a major operation and regularly results in stoma formation, which is often permanent.

Approximately 15% of people with diverticula will develop bleeding from the bowel wall. In a small number of these patients, the bleeding is life-threatening and requires intervention through either emergency surgery or radiological management.

Patients with repeated episodes of diverticulitis may be considered for elective surgery to remove the affected piece of bowel. Surgery is conventionally considered after two or more episodes of diverticulitis, although it is recognised that this indication is controversial. Whether or not surgery should be performed laparoscopically is also the subject of some controversy.

1 High Value Care Pathway for colonic diverticular disease

These guidelines apply only to those patients who have been previously diagnosed as having colonic diverticula. Colonic diverticulosis should only be diagnosed after diverticula have been noted on imaging (such as barium enema or CT) or after direct visualisation (either endoscopically or at surgery)
Patients with suspected, but not previously diagnosed, diverticular disease should be managed and referred according to local policies. Patients with known diverticulosis who have 'red flag' symptoms/signs should be urgently referred for further investigation.

1.1 Primary Care

Patients with diverticulosis

- These patients have asymptomatic diverticula that are an incidental finding from investigations for other problems
- Patients should be managed according to NICE guidelines, ensuring a high fibre diet and an adequate fluid intake
- No further follow-up is required

Patients with diverticular disease

- These patients have previously diagnosed colonic diverticula and symptoms such as lower abdominal pain and altered bowel habit
- Patients should be managed according to NICE guidelines, ensuring a high fibre diet (if necessary supplementing this with laxatives) and an adequate fluid intake
- If analgesics are necessary then this should be with paracetamol rather than non-steroidal anti-inflammatory drugs or opioid analgesics
- In general, referral to secondary care is not indicated for these patients
- Referral to secondary care should however be considered if:
    - symptoms affect quality of life
    - pain is not controlled by paracetamol

- ‘red-flag’ symptoms develop
- new symptoms (such as a change in bowel habit) develop which require further investigation
- there is concern (either doctor or patient) over an alternative diagnosis

Patients with diverticular disease and bleeding

- These patients have previously diagnosed colonic diverticula and bleeding via the rectum
- Separate commissioning guidelines exist for the management and referral of patients with rectal bleeding and patients should be managed according to these guidelines and NICE guidelines
- In general, emergency referral to secondary care is required if there is:
  - haemodynamic instability
  - significant blood loss
  - potential requirement for blood transfusion

Patients with acute diverticulitis

- These patients have previously diagnosed colonic diverticula with symptoms such as lower abdominal pain and nausea/vomiting and signs including fever and localised guarding
- Referral to hospital is not mandatory for all patients with diverticulitis and patients may be managed at home
- If patients are deemed suitable for home management, this should be in accordance to NICE guidelines with suitable analgesics (paracetamol rather than non-steroidal anti-inflammatory drugs) and clear liquids for 2-3 days
- There is low level evidence that patients suitable for management at home may be managed without the use of antibiotics. However, in general, a course of oral antibiotics is recommended. If adequate support is available (for example through use of an out-patient parenteral antimicrobial therapy team), intravenous antibiotics may also be prescribed
- Admission to hospital should be arranged for patients with acute diverticulitis as per NICE guidelines. In general, admission to hospital is recommended when there is pain not controlled by paracetamol, inability to maintain hydration, significant patient co-morbidity or immunocompromise, non-resolution of symptoms after 48 hours or concern that there is complicated diverticulitis
- The above management is also deemed suitable for patients with suspected acute diverticulitis but who have not previously had a definitive diagnosis of colonic diverticula. In this group of patients however, the group considered that subsequent referral for out-patient investigation should be strongly considered

Flow-chart for management of acute diverticulitis in primary care

Antibiotics

Prescribe broad-spectrum antibiotics to cover anaerobes and Gram-negative bacilli, e.g. co-amoxiclav *or* ciprofloxacin and metronidazole (if penicillin allergic)

Treatment should last for at least 7 days

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Analgesia

Prescribe paracetamol if required

Avoid non-steroidal anti-inflammatory drugs and opioid analgesics

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Hydration/Food

Recommend clear liquids only

Reintroduce solid food as symptoms improve over 2–3 days

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Clinical Review

Reassess the patient within 48 hours, or sooner if symptoms deteriorate, and thereafter depending on response to treatment

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If admission becomes necessary

Consider parenteral opioid analgesia while awaiting admission

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If symptoms recur or if there are concerns about the diagnosis

Consider surgical out-patient referral

1.2 Secondary Care

Patients with diverticulosis

- These patients have asymptomatic diverticula that are an incidental finding from investigations for other problems
- Patients should be managed according to NICE guidelines with advice given on a high fibre diet and an adequate fluid intake
- No further follow-up in required

Patients with diverticular disease

- These patients have previously diagnosed colonic diverticula and symptoms such as lower abdominal pain and altered bowel habit
- Patients should be managed according to NICE guidelines with advice given on a high fibre diet and an adequate fluid intake
- Patients who have symptoms attributed to diverticular disease but without evidence of diverticulitis should have alternative diagnoses investigated.
- There is little evidence that recurrent symptoms attributable to diverticular disease alone (without evidence of recurrent diverticulitis) are effectively treated by surgery and on the basis of the available evidence the group did not support elective resection for this group of patients. Surgery for patients with intractable symptoms may be considered but this should only be in exceptional cases

Patients with diverticular disease and bleeding

- These patients have previously diagnosed colonic diverticula and significant bleeding via the rectum
- Separate commissioning and practice guidelines exist for the management of patients with rectal bleeding and patients with this condition should be managed according to these guidelines

Patients with acute diverticulitis – initial management

- Patients should be managed according to ACPGBI guidelines
- The diagnosis of acute diverticulitis should be confirmed during the acute attack by radiological means (either ultrasound, or preferentially CT)
- There is evidence that some patients with acute diverticulitis can be managed without antibiotics. However the group felt that in a person unwell enough to be admitted to hospital, antibiotic therapy should be initiated at least in the early stages of treatment. The decision as to whether antibiotic therapy should be via the oral or intravenous route should be made according to individual patient circumstance
- Whenever possible, patients with uncomplicated diverticulitis should be managed medically without recourse to surgery
- Several options exist for patients with both complicated and uncomplicated diverticulitis who fail to respond to conservative management, including radiological (either CT or ultrasound) drainage of a pericolic abscess, laparoscopic lavage (with/without drain placement), emergency surgery (defunctioning stoma, Hartmann's procedure, sigmoid colectomy with primary anastomosis either with/without covering

loop stoma). All of these treatments have a role to play and the decision as to which one is utilised should be made on an individual patient basis
- There is minimal evidence for the use of laparoscopic resection in patients requiring emergency sigmoid colectomy. Despite this, the group considered that in this group of patients laparoscopic surgery should be considered if there is appropriate expertise available
- Percutaneous drainage is a useful technique and in some patients may prevent subsequent surgery. Access to interventional radiology is therefore an essential requirement

Patients with acute diverticulitis – subsequent management

- All patients require investigation of the colonic lumen by either endoscopy, barium enema or CT colonography after the acute attack has resolved
- Elective resection for a patient with a single episode of uncomplicated diverticulitis is not supported

Patients with recurrent diverticulitis – subsequent management

- The decision as to when to offer elective resection for a patient with recurrent (two or more) episodes of diverticulitis is dependent on a number of factors. A single blanket recommendation is not appropriate and the decision as to whether or not to offer surgery in this group of patients should be made on an individual patient basis
- Age alone (both young and old) should not be a criteria when considering whether or not to offer elective surgery
- There is some limited evidence to suggest laparoscopic surgery for this group of patients is as safe as open surgery and might lead to lower complication rates, although there is a higher likelihood of conversion to an open procedure. Laparoscopic surgery in this setting is recognised to be technically demanding. If a decision is made to offer elective surgery, the role of laparoscopic surgery should therefore be routinely discussed if appropriate expertise is available

2 Procedures explorer for colonic diverticular disease

Users can access further procedure information based on the data available in the quality dashboard to see how individual providers are performing against the indicators. This will enable CCGs to start a conversation with providers who appear to be 'outliers' from the indicators of quality that have been selected.

The Procedures Explorer Tool is available via the Royal College of Surgeons website.

3 Quality dashboard for colonic diverticular disease

The quality dashboard provides an overview of activity commissioned by CCGs from the relevant pathways, and indicators of the quality of care provided by surgical units.

The quality dashboard is available via the Royal College of Surgeons website.

- Length of stay (uncomplicated acute diverticulitis not requiring surgery)
- Length of stay (emergency surgery for diverticulitis)
- Length of stay (elective surgery for recurrent diverticulitis)
- 30 day readmission rate (elective surgery for recurrent diverticulitis)
- 30 day readmission rate for emergency surgery (all types associated with diverticular disease)
- 18-month stoma rate post-elective surgery
- 18-month stoma rate post-emergency surgery
- 30-day mortality rate after elective surgery (risk-adjusted)
- 30-day mortality rate after emergency surgery (risk-adjusted)
- 90-day mortality rate after elective surgery (risk-adjusted)
- 90-day mortality rate after emergency surgery (risk-adjusted)

4 Levers for implementation

4.1 Audit and peer review measures

The following measures and standards are those expected at primary and secondary care. Evidence should be able to be made available to commissioners if requested.

	Measure	Standard
Primary Care	Management of diverticulosis (lifestyle advice)	NICE guidelines
	Management of diverticular disease (lifestyle advice)	NICE guidelines
Secondary Care	Use of imaging to confirm diagnosis	ACPGBI guidelines
	Endoscopic/radiological investigation after resolution of acute episode	ACPGBI guidelines

4.2 Quality Specification/CQUIN

Measure	Description	Data specification (if required)
Length of stay (elective surgery)	Provider demonstrates a mean LOS of x days	Data available from HES
30-day readmission rate after elective surgery	Provider demonstrates a readmission rate of Less than x%	Data available from HES

5 Directory

5.1 Patient Information for colonic diverticular disease

Name	Publisher	Link
Diverticular disease	Core charity	www.corecharity.org.uk/Diverticular-disease.html
Diverticular disease	Bladder and bowel foundation	www.bladderandbowelfoundation.org/bowel/bowel-problems/diverticular-disease.asp
Diverticular disease and diverticulitis - symptoms	NHS Choices	www.nhs.uk/Conditions/Diverticular-disease-and-diverticulitis/Pages/Symptoms.aspx
Diverticular Disease	Patient.co.uk	www.patient.co.uk/doctor/diverticular-disease

5.2 Clinician information for colonic diverticular disease

Name	Publisher	Link
Diverticular disease: clinical knowledge summary	NICE	http://cks.nice.org.uk/diverticular-disease#!topicsummary
Danish national guidelines for treatment of diverticular disease	Danish medical journal	Dan Med J 2012;59(5):C4453
Diverticular disease: World Gastroenterology Organisation	World gastroenterology organisation	http://www.worldgastroenterology.org/assets/downloads/en/pdf/guidelines/07_diverticular_disease.pdf
ACPGBI position statement on elective resection for diverticulitis	ACPGBI	Colorectal Dis 2011;13(suppl 3):1-11

6 Benefits and risks of implementing this guide

Consideration	Benefit	Risk
Patient outcome	Ensure access to effective conservative, medical and surgical therapy	Unrecognised deterioration on conservative therapy
Patient safety	Reduce unnecessary surgery	
Patient experience	Improve access to patient information, support groups	
Equity of Access	Improve access to effective procedures	
Resource impact	Reduce unnecessary referral and intervention	

7 Further information

7.1 Research recommendations

- Role of laparoscopic lavage/drain placement in acute diverticulitis
- Treatment of uncomplicated diverticulitis without antibiotics
- Necessity/timing of surgery in recurrent diverticulitis
- Long term outcome of elective surgery for recurrent diverticulitis

7.2 Other recommendations

- Increased provision of patient information and support groups
- Audit of primary care management according to NICE

7.3 Evidence base

A full literature search and review was undertaken in accordance with the Commissioning Guidance Process Manual. The more influential sources of evidence are provided below.

1. Fozard JB, Armitage NC, Schofield JB, Jones OM. ACPGBI position statement on elective resection for diverticulitis. Colorectal Dis 2011;13(suppl 3):1-11
2. National Institute for Health and Care Excellence. Clinical knowledge summaries: diverticular disease. March 2013
3. Andersen JC, Bundgaard L, Elbrond H, Laurberg S, Walker LR, Stovring J. Danish national guidelines for treatment of diverticular disease. Dan Med J 2012;59(5):C4453
4. Shabanzadeh DM and Wille-Jorgensen P. Antibiotics for uncomplicated diverticulitis. Cochrane Database Syst Rev 2012 Nov 14:11:CD009092

5. World Gastroenterology Organisation. World Gastroenterology Organisation practice guidelines: diverticular disease. World Gastroenterology Organisation 2007

7.4 Guide development group for colonic diverticular disease

A commissioning guide development group was established to review and advise on the content of the commissioning guide. This group met once, with additional interaction taking place via email.

Name	Job Title/Role	Affiliation
Mr Keith Chapple (Chair)	Consultant in general and colorectal surgery	Sheffield Teaching Hospitals NHS Trust
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Mrs Pam Peers	Patient Representative	Patient Liaison Group Royal College of Surgeons of England
Mr Nick Price	Patient Representative	Patient Liaison Group Royal College of Surgeons of England
Dr Marion Sloan	General Practitioner	Sheffield Clinical Commissioning Group

7.5 Funding statement

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- Department of Health Right Care funded the costs of the guide development group, literature searches and contributed towards administrative costs.
- The Royal College of Surgeons of England and the Association of Coloproctology of Great Britain and Ireland provided staff to support the guideline development.

7.6 Conflict of Interest Statement

Individuals involved in the development and formal peer review of commissioning guides are asked to complete a conflict of interest declaration. It is noted that declaring a conflict of interest does not imply that the individual has been influenced by his or her secondary interest. It is intended to make interests (financial or otherwise) more transparent and to allow others to have knowledge of the interest.

- No interests were declared by members.