

Commissioner's Guide to NCEPOD Report

Delay in Transit

Introduction

Acute bowel obstruction occurs when there is an interruption to the forward flow of intestinal contents, and accounts for 10% of emergency surgical admissions. Intestinal obstruction is associated with life threatening complications such as aspiration pneumonia as well as bowel ischaemia and perforation. Planning optimal therapy can be challenging; surgeons have to make critical decisions with regard to non-operative management versus surgery. Prompt radiological investigations and diagnosis is essential to prevent a delay in surgical intervention, which can significantly affect patient outcome. Early recognition of impending perforation is essential using clinical and radiological investigations to ensure expedient surgery or other therapeutic intervention. Early abdominal CT with intravenous contrast is recommended to identify closed-loop obstruction, bowel ischaemia and bowel perforation. Adhesions from previous surgery are currently the leading cause of small bowel obstruction in industrialised countries (70%), followed by malignancy, inflammatory bowel disease, and hernias. Malignancy and volvulus are the commonest causes of large bowel obstruction. When surgery is required, mortality can exceed 10%, far higher than seen in elective gastrointestinal surgery. The majority of patients requiring surgery can be categorised as 'high-risk' and require consultant delivered care as well as admission to critical care after surgery. Prompt recognition of patient deterioration, sepsis, and perforation is needed. Surgery may be required within a matter of hours for the surgical source control of sepsis, or to prevent impending perforation. Currently there is no national guideline nor framework for the management of acute bowel obstruction and there is considerable variation in care, with variation in outcomes.

Patient population

Data was collected on patients aged 16 and older who were admitted to hospital during a one month period with an acute bowel obstruction. Of those identified, up to 8 patients were sampled per hospital for the completion of a clinician questionnaire by the admitting consultant and 2 sets of case notes. A retrospective questionnaire review was undertaken in 690 patients and a case note review in 294 patients

Clinical issues

This study highlights significant opportunities to improve the care of patients with acute bowel obstruction. The overarching finding was that there were significant delays in the pathway of care for this group of patients, from requesting imaging, diagnosis, decision-making and availability of an operating theatre.

There were delays in imaging in 57/276 (20.7%) of the cases reviewed and the delays increased if an abdominal X-ray was performed as well as an abdominal CT. Furthermore a delay in imaging led to a delay in diagnosis in 35/57 (61.4%) patients whereas only 14/219 (6.4%) patients had a delay in diagnosis if there was no delay in imaging. Delays in consultant assessment led to a delay in diagnosis in 13/32 (40.6%) patients. Only 23/147 (15.6%) patients who were seen in a timely manner by a consultant experienced a delay in diagnosis. Following diagnosis 72/368 (19.6%) patients

experienced a delay in access to surgery and in 38/72 (52.8%) patients the delay was due to non-availability of theatre and in 34/72 (47.2%) it was due non-availability of an anaesthetist.

In addition to the delays, there was found to be room for improvement in the clinical care of this group of patients. Risk and frailty assessments were variable. Risk assessment is important as patients who had a risk assessment had better escalation of care, however this was inadequate in 98/219 (44.7%) patients. Similarly, only 34/124 (27.4%) patients over 65 years of age had their frailty score assessed on admission to the ward and if patients did have a Rockwood frailty score of 5 or higher this was more likely to result in discussions around mortality, resuscitation status and treatment options.

To prevent malnutrition and acute kidney injury, nutrition and hydration status are fundamental to care in patients with an acute bowel obstruction, these were often not well assessed. Only 163/686 (23.8%) patients had their hydration status recorded, 105/254 (41.3%) patients either had no nutritional status assessment or the assessment was inadequate and only 88/233 (37.8%) patients had a nutrition assessment on discharge.

Organisational issues

28/169 (16.6%) hospitals reported a specific pathway for acute bowel obstruction; in 63/169 (37.3%) there was not a specific acute bowel obstruction pathway but a more general acute abdomen pathway. Clinical data showed that there were fewer delays There was a maximum time reporting of CT of less than 1 hour in 43/74 hospitals (in hours) and 48/94 (51.1%) hospitals out-of-hours 15/148 (10.1%) hospitals there was no guideline for pain scoring in the emergency department 136/170 (80.0%) hospitals had at least one dedicated emergency (CEPOD) theatre #74 120/166 (72.3%) hospitals reported that there was priority grading for emergency surgery and in 79/164 (48.2%) hospitals there was a theatre co-ordinator to facilitate this NCEPOD Classification of Intervention www.ncepod.org.uk/classification

38/171 (22.2%) hospitals had no on-site access to stenting and only five reported to be part of a clinical network to improve access to this service Of those hospitals where there was a pathway, they only included guidelines on time limit to treatment decision in 22/91 hospitals and timing of surgery in 33/91 hospitals.

Key features of a service

Undertake a CT scan with intravenous contrast promptly, as the definitive method of imaging* for patients presenting with suspected acute bowel obstruction. Prompt radiological diagnosis will help ensure admission to the correct specialty, so the time to CT reporting should be audited locally.

Admit patients with symptoms of acute bowel obstruction as necessary, but patients who have a definitive diagnosis of acute bowel obstruction should be admitted under the care of a surgical team.

Measure and document hydration status in all patients presenting with symptoms of acute bowel obstruction in order to minimise the risk of acute kidney injury (AKI). Ensure that hydration status is:

- a. Assessed at presentation to the emergency department
- b. Assessed throughout the admission

Undertake a consultant review in all patients diagnosed with acute bowel obstruction as soon as clinically indicated and at the latest within 14 hours of admission to hospital. Discussion with a consultant should occur within an hour for high-risk patients*

Assess pain in all patients with symptoms of acute bowel obstruction and give analgesia in line with local and national guidelines. Ensure that:

- a. Pain is assessed at presentation to the emergency department
- b. Pain is assessed throughout the admission
- c. Referral to the acute pain team is undertaken when pain is difficult to manage, while ensuring the referral does not cause a delay in any definitive treatment.

Undertake, record and act on nutritional screening in all patients who present with symptoms of acute bowel obstruction. This should include:

- a. A MUST score on admission to hospital
 - b. A MUST score at least weekly throughout the admission
 - c. Review by a dietitian/nutrition team once a diagnosis has been made
- A MUST score, and if required a dietitian/nutrition team assessment at discharge

Ensure patients with a high frailty score (e.g. Rockwood 5 or more) receive:

- a. A multidisciplinary team discussion for shared decision-making, including care of the elderly
- b. A risk assessment, with input from critical care relevant to the patient's needs
- c. A treatment escalation plan
- d. Their resuscitation status recorded

Ensure local policies are in place for the escalation of patients requiring surgery for acute bowel obstruction to enable rapid access to the operating theatre.* This should be regularly audited to ensure adequate emergency capacity planning.

Agree joint clinical network pathways of care that enable improved access to stenting services for those patients with acute large bowel obstruction who require the service.

Calculate morbidity and mortality risk for all patients admitted with, and before any surgery for, acute bowel obstruction, to aid:

- a. Shared decision-making between the patient, carers and clinicians, with regard to the treatment options available and to ensure the appropriate informed consent is taken
- b. Assessment of the risk and predicted outcome associated with undertaking a laparotomy

Minimise delays to diagnosis and treatment for acute bowel obstruction. Development of an evidence-based pathway for acute bowel obstruction, including recommendations 1-10 could facilitate this. The pathway should be audited at specific time points such as:

- a. Time from arrival to CT scan
- b. Time from arrival to diagnosis
- c. Time from decision to operate to start of anaesthesia

National guidance and reports

National Emergency Laparotomy Audit -NELA (2019)

<https://www.nela.org.uk/downloads/The%20Fifth%20Patient%20Report%20of%20the%20NELA%20-%20Highlight%20Report.pdf>

National Audit of Small Bowel Obstruction -NASBO (2017)

<https://www.acpgbi.org.uk/content/uploads/2017/12/NASBO-REPORT-2017.pdf>

Association of Surgeons of Great Britain and Ireland and the Royal College of Surgeons of England.
Commissioning Guide: Emergency General Surgery (acute abdominal pain) 2014

<https://www.rcseng.ac.uk/library-and-publications/rcs-publications/docs/emergency-general-guide/>

NICE CG169

<https://www.nice.org.uk/guidance/cg169/chapter/1-Recommendations#assessing-risk-of-acute-kidney-injury>

RCP Acute care toolkit 12

<https://www.rcplondon.ac.uk/guidelines-policy/acute-care-toolkit-12-acute-kidney-injury-and-intravenous-fluid-therapy>

RCP Acute care toolkit 4

<https://www.rcplondon.ac.uk/guidelines-policy/acute-care-toolkit-4-delivering-12-hour-7-day-consultant-presence-acute-medical-unit>

NHS England NHS Services, Seven Days a Week Forum. Standard 2

<https://www.england.nhs.uk/wp-content/uploads/2013/12/forum-summary-report.pdf>

BAPEN. THE 'MUST' REPORT Nutritional screening of adults: a multidisciplinary responsibility. 2003

<https://www.bapen.org.uk/pdfs/must/must-report.pdf>

The Rockwood Clinical Frailty Scale:

Rockwood K Song X, MacKnight C et al. 2005. A global clinical measure of fitness and frailty in elderly people. CMAJ. 173:489-495

<https://www.dal.ca/sites/gmr/our-tools/clinical-frailty-scale.html> Whilst not a guideline, this scale is the standard used for assessing clinical frailty

NCEPOD Classification of Intervention

www.ncepod.org.uk/classification Whilst not a guideline, this scale is well recognised for assessing urgency of surgery