CASE DISCUSSION - INTESTINAL OBSTRUCTION BY MALIGNANCY

Case presentation: Surgical treatment of malignant bowel obstruction

R. Burgos (ES)
The nutritional management of patients with acute malignant bowel obstruction

A case discussion

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Moderators
J Shaffer
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Learning objectives

To understand

The overall management of patients with acute malignant bowel obstruction (AMBO)

Nutritional & surgical issues

Ethical issues
Clinical case

53 year old male, works as a driver

Married, lives with his wife & 2 sons
Smoker for 20 years
Type 2 diabetic on glibenclamide
Clinical case

1 week history of:

- Cramping abdominal pain
- Abdominal distension
- Vomiting

- Decreased intake (<50% usual intake)
- Weight loss (7kg in 2 months, 11% weight loss)
Clinical case

<table>
<thead>
<tr>
<th>Physical examination</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pale</td>
<td>• Hb 10 g/dL</td>
</tr>
<tr>
<td>• Abdominal distension</td>
<td>• Albumin 31 g/L</td>
</tr>
<tr>
<td>• Weight 70 kg</td>
<td>• CRP 15 mg/L</td>
</tr>
<tr>
<td>• BMI 23 kg/m²</td>
<td>• Creatinine 117 mcmol/L (1.32 mg/dL)</td>
</tr>
</tbody>
</table>
Clinical case

**Abdominal CT**: intraluminal mass in sigmoid colon with distended bowel above the lesion
Clinical case

**Colonoscopy:** intraluminal & ulcerated mass at 25cm involving 3/4 of the lumen. Impossible to pass
Clinical case

CT lung: Pleural effusion. Nodules in right pleura
Clinical case

**Pleural aspirate:** Lymphocytic exudate. Adenocarcinoma cells compatible with primary GI tumour

**Biopsy:** Adenocarcinoma. K-ras mutated

**Diagnosis:** Sigmoid adenocarcinoma stage IV (T4NxM1)

Acute malignant bowel obstruction
Audience question

How would you manage this patient initially?

- Surgery
- Stent
- Conservative treatment
Nutritional management of AMBO

17 answers in Europe.
4 from the rest of the world (2 Mexico, 1 Uruguay, 1 Indonesia)
What is the initial treatment for a patient with a AMBO as a first diagnosis of a colo-rectal cancer?
Immediate surgery?

7-29% of patients with colorectal cancer present with bowel obstruction

**Emergency surgery**

- Loop colostomy or Hartman’s procedure
- No difference in complications or LOS

Self-expanding metal stent

• Avoids colostomy
• Improves quality of life
  – L hemicolon stent technical success 88-100 %
  – Lower 30-day mortality rate
  – Shorter LOS
  – Lower ICU admission rate
  – Shorter time to initiation of chemotherapy

Liang TW. Surg Today 2014
Zhao XD. World J Gastroenterol 2013
Stent success

- Operator experience
- Anatomy
- Complications
  - Stent migration
  - Perforation
  - Tumour overgrowth and ingrowth

**European Society of GI Endoscopy (ESGE) Clinical guidelines:**
A stent is recommended as the preferred treatment for palliation of a malignant colonic obstruction.
Immediate surgery?

7-29 % of patients with colorectal cancer present with bowel obstruction

**Emergency surgery**
- Loop colostomy or Hartman’s procedure
- No difference in complications or LOS

**Self expanding metal stents**
- Colonic stenting has no decisive clinical advantages to emergency surgery


**Self-expanding metallic stents vs emergency surgery**
Success rate higher after surgery (99 %) compared with the stent group (52.5 %) (p<0.01)

Cirocchi R. Surg Oncol 2012

Van Hooft JE. Lancet Oncol 2011
Review Article

Recommendations for Bowel Obstruction With Peritoneal Carcinomatosis

Guillemette Laval, MD, Blandine Marcelin-Benazech, MD,

Clinical signs of bowel obstruction

Abdominal CT
Bowel obstruction with carcinomatosis
Specify level of stenosis
Specify mechanism
Rule out surgical emergency

Indication for surgery?
Joint approach with physicians and surgeons

Prognostic criteria
Age & comorbidities
Nutrition
Level of obstruction, History of radiotherapy
Probable subsequent treatments

Medical intervention

Yes
Non-neoplastic obstruction, perforation, volvulus, endoscopic approach not possible

No
Patient disagreement, poor health, extensive carcinomatosis, multiple levels of stenosis, invasion of mesentery root
## Conservative management

### Treatment
- IV fluids with electrolytes
- Antiemetics
- Analgesia
- Antisecretory (acid suppression)
- Gastric decompression

### Monitoring
- Fluid balance
- Gastric output
- Urine output
NG decompression

Why

• Vomiting and pain from distention
• To obtain instant relief

How long

• Preferably no more than several days
• Until relief of obstruction

Ripamonti, C et al. Support Care Cancer, 9 (2001),
Laval, G et al j.painsymman Vol 31 is. 6, 2006
Mercadante, S. j.painsymman Vol. 33 No. 2 February 2007
Disadvantages of NG decompression

- Significant discomfort
- Immobilization of the patient
- Nasal or pharyngeal pain
- Risk of infection, pharyngitis, sinusitis
- Risk of nostril ulceration
- Risk of esophageal erosion

- Thirst
- Oral problems, related to “Nil by mouth”
  - Dry mouth, throat and tongue
  - Difficulty in speaking
  - Saliva that feels thick & stringy
  - Bad breath
  - Teeth that feel coated & unclean
  - Fungal infection

Ripamonti, C Support Care Cancer, 9 (2001)
Laval, G Jpainsymman Vol 31 is. 6, 2006
Liddle C, Nursing Times; 110: 26, 12-14
Which tube is best for this patient?

- Small bore (<=12F)
- Medium bore (14-16F)
- Large bore (>16F)
Helping patients cope with a gastric decompression tube

• Smallest possible
  – 14-16 Fr
  – Connected to weak suction
    30-40 (max 50) kPa (225-300 mmHg)

• Observations and care
  – Aspirate volume: constant flow?
  – Aspirate appearance: bile, faecal, bloody?
  – Fluid balance
  – Vomiting
  – Tube exit site
  – Patient temperature
  – Frequent, good oral care

Masanori, M. Jpainsymman, vol 38. 2009
Liddle, C. Nursing Times; 110: 26, 2014
Bisset S, Nursing Older People; 23: 10. 2011
How would you manage this patient now?

Surgery

Stent

Conservative treatment
What about nutrition?
Nutrition in the decision-making process in MBO

Pre-surgery malnutrition is a general prognostic factor for survival, together with age & performance status.

Post-surgery malnutrition is a prognostic factor for surgical mortality.

Parenteral nutrition is indicated

- In patients with minimal tumour burden who are candidates for surgery.
- In patients with good PS early in the disease who have not had chemotherapy or whose cancer responds to chemotherapy.
- TPN is only of benefit in patients with intermediate life expectancy who may otherwise die of starvation rather than from the cancer itself.

Soriano, Cleveland Clinic J Med 2011
Ripamonti C, Eur J Cancer 2008
Clinical case

• NG passed
• Medical treatment initiated
• Stent considered

• Patient improved & stent not required
What nutrition should be given?

- Oral diet alone
- Oral diet with ONS
- Enteral nutrition
- Parenteral nutrition
When do you initiate **parenteral nutrition**?

- When diagnosis & prognosis is established
- If patient not improving
- After patient has fasted for 7 days
- If patient is malnourished
- Other
Nutritional management of AMBO

17 answers in Europe.
4 from the rest of the world (2 Mexico, 1 Uruguay, 1 Indonesia)
Is parenteral nutrition included in medical treatment?

- **YES**
- **NO**
- **ONLY IF MALNUTRITION**
- **ONLY AFTER 5 DAYS NPM**
- **PATIENT OR FAMILY REQUEST**
- **OTHERS**

ONLY IF DIAGNOSIS/STAGE IS STABLISHED, AND PATIENT HAS POSSIBILITIES OF SPECIFIC ONCOLOGIC TREATMENT
When is PN started?
ESPEN survey of nutritional management of AMBO

Conclusion

• Many different approaches used
• Parenteral nutrition sometimes delayed
  – Until diagnosis is established
  – Medical treatment partially effective

<table>
<thead>
<tr>
<th>Indication</th>
<th>Recommendation</th>
<th>Evidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Start nutritional therapy if undernutrition already exists or if it is anticipated that the patient will be unable to eat for &gt; 7 days.</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Start enteral nutrition if an inadequate food intake (&lt;60% of estimated energy expenditure for &gt; 10 days) is anticipated. It should substitute the difference between actual intake and calculated requirements.</td>
<td>C</td>
</tr>
<tr>
<td>Perioperative</td>
<td>In weight losing patients due to insufficient nutritional intake enteral nutrition should be provided to improve or maintain nutritional status.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Patients with severe nutritional risk benefit from nutritional support 10–14 d prior to major surgery even if surgery has to be delayed.</td>
<td>A</td>
</tr>
</tbody>
</table>
Preoperative parenteral nutrition

- Indicated in severely undernourished patients who cannot be adequately orally or enterally fed
Postoperative parenteral nutrition

• Beneficial in patients with postoperative complications impairs GI function who are unable to receive & absorb adequate amounts of oral/enteral feeding for at least 7 days
Combinations of enteral and parenteral nutrition

- Should be considered in patients in whom there is an indication for nutritional support and in whom >60% of energy needs cannot be met.
Clinical case

Chemotherapy was considered

Low performance status noted
Performance status

• Is an attempt to quantify cancer patients’ general well-being and activities of daily life
• Used to determine whether they can receive chemotherapy
  – whether dose adjustment is necessary
  – as a measure for the required intensity of palliative care
  – used in oncological randomised controlled trials as a measure of QOL
## PERFORMANCE STATUS SCALES

Correspondence between ECOG and Karnofsky scores

<table>
<thead>
<tr>
<th>ECOG</th>
<th>KARNOFSKY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>Criteria (simplified)</td>
</tr>
<tr>
<td>0</td>
<td>Normal activity</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Symptoms but ambulatory</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>In bed &lt;50% of time</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>In bed &gt;50% of time</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>100% bedridden</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Dead</td>
</tr>
</tbody>
</table>
Clinical case

Chemotherapy for 6 months with dietetic input

Good clinical outcome
Clinical case

6 months later

- Pulmonary progression noted on CT
- Anorexia & weight loss despite nutritional supplements

ER admission for abdominal pain and vomiting

- Abdominal distension with small bowel obstruction

Parenteral nutrition initiated
Nutritional & clinical state of patient

• Progressive malnutrition
• Oral intake severely decreased
• Postprandial abdominal pain and vomiting
• NG tube draining 2 l a day
• BMI 18 (previous 23)
• Capable of limited-self care, confined to bed or chair about 50% of time
How would you manage this patient?

- Surgery
- Stent
- Conservative treatment
Clinical case

Due to malnutrition and poor oral intake, PN was maintained during hospitalisation

Patient and family were informed about prognosis. Very good family support

Patient wishes to be at home with supplementary HPN
Audience question

Will you send this patient home on PN?

Yes

No
Nutritional management of AMBO

17 answers in Europe.
4 from the rest of the world (2 Mexico, 1 Uruguay, 1 Indonesia)
If you decide that a patient with AMBO as a first diagnosis for colo-rectal cancer is not a candidate for oncologic treatment, what you decide about TPN?
Artificial nutrition may be controversial from ethical point of view
Medical Ethics

Autonomy  Non-maleficence

Beneficence  Justice

Four Principles Approach
Ethics: opinions
Strict and clear recommendations are unavailable worldwide
AIF SIG’s countries

Poland: no precise rules
UK: no precise rules
Denmark: no precise rules
Norway: no precise rules
Spain: no precise rules
Netherlands: no precise rules
Italy: no precise rules
Serbia: no precise rules
Status of clinical nutrition

• Fluid or food given by tube enterally or parenterally is **legally medical treatment and not basic care**

• Oral feeding is part of **basic care** (washing, pain relief, etc)
Scientific societies to rescue?
ASPEN’s opinion

‘...withholding a drug or invasive procedure will not produce disease in otherwise healthy humans, whereas essential nutrients must be provided to both healthy and ill people.’

ASPEN Board of Directors, 2002
Ethical issues

<table>
<thead>
<tr>
<th>Statement</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legally and ethically, SNS should be considered a medical therapy</td>
<td>A</td>
</tr>
<tr>
<td>Adult patients or their legally authorized surrogates have the right to accept or to refuse SNS</td>
<td>A</td>
</tr>
<tr>
<td>The benefits and burdens of SNS should be considered before offering this therapy</td>
<td>B</td>
</tr>
<tr>
<td>Institutions should develop clear policies regarding withdrawal or withholding specialised nutrition support</td>
<td>A</td>
</tr>
</tbody>
</table>

*ASPEN Board of Directors and the clinical guidelines task force. J PEN 2002;26 (Suppl 1):56SA-58SA*
ESPEN’s opinion


ESPEN Guidelines on Parenteral Nutrition: Non-surgical oncology
F. Bozzetti a, J. Arends b, K. Lundholm c, A. Micklewright d, G. Zurcher e, M. Muscaritoli f


ESPEN Guidelines on Enteral Nutrition: Non-surgical oncology
J. Arends a, G. Bodoky b, F. Bozzetti c, K. Fearon d, M. Muscaritoli e, G. Selga f, M.A.E. van Bokhorst-de van der Schueren g, M. von Meyenfeldt h, DGEM: G. Zürcher, R. Fietkau, E. Aulbert, B. Frick, M. Holm, M. Kneba, H.J. Mestrom, A. Zander
### ESPEN Guidelines on Enteral Nutrition: Non-surgical oncology

J. Arends\textsuperscript{a,*}, G. Bodoky\textsuperscript{b}, F. Bozzetti\textsuperscript{c}, K. Fearon\textsuperscript{d}, M. Muscaritoli\textsuperscript{e}, G. Selga\textsuperscript{f}, M.A.E. van Bokhorst-de van der Schueren\textsuperscript{g}, M. von Meyenfeldt\textsuperscript{h}, DGEM: G. Zürcher, R. Fietkau, E. Aulbert, B. Frick, M. Holm, M. Kneba, H.J. Mestrom, A. Zander

<table>
<thead>
<tr>
<th>In incurable patients</th>
<th>Provide enteral nutrition in order to minimise weight loss as long as the patient consents and the dying phase has not started.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When the end of life is very close most patients only require minimal amounts of food and little water to reduce thirst and hunger.</td>
</tr>
<tr>
<td></td>
<td>Small amounts of fluid may also help to avoid states of confusion induced by dehydratation.</td>
</tr>
<tr>
<td></td>
<td>Subcutaneously infused fluids in hospital or at home may be helpful and also provide a vehicle for the administration of drugs.</td>
</tr>
</tbody>
</table>
In intestinal failure, long-term PN should be offered, if
(1) enteral nutrition is insufficient,
(2) Expected survival due to tumor progression is longer than 2–3 months
(3) it is expected that PN can stabilize or improve performance status and quality of life, and
(4) the patient desires this mode of nutritional support

There is probable benefit in supporting incurable cancer patients with weight loss and reduced nutrient intake with “supplemental” PN
Incurable cancer patients may enter a HPN program if they are unable to meet their nutritional requirements by oral or enteral route and there is a risk of death due to malnutrition. It is not a contraindication for HPN that oncologic treatment has been stopped

Patients should have a Karnofsky score of higher than 50 and normally be free from metastasis to the liver or lungs. It is important that symptoms are controlled and that patients are aware of the limitations of the treatment
As long as a patient can swallow and expresses a desire or willingness to drink or eat, fluid and nutrients should be given provided that there is no medical contraindication. This is basic care. Artificial feeding by tube or by vein is a medical treatment

Prolongation of misery or dying by burdensome technology is unethical
Everyday problems
Autonomy

• Patient has the right to agree to the proposal of the treatment or TO REFUSE it!

• To make a decision, the patient must:
  – Be fully informed about the disease, outcome, treatment benefit / harm, consequences of refusing treatment
  – Have time to reflect upon / consult with family

Family may become a problem...

Mental capacity act, 2005
Mental capacity

A person should be able to:

1. Understand in simple language what the medical treatment (or research intervention) is, its purpose and why it is proposed.

2. Understand its principle benefits, risks and alternatives.

3. Understand in broad terms what will be the consequences of not receiving the proposed treatment.

4. Retain the information for long enough to make an effective decision.

5. Make a free choice without pressure

British Medical Association & the Law Society
Justice

“Wrong is wrong even if everyone is doing it. Right is right even if no one is doing it.”
Clinical case

• Patient discharged home on parenteral nutrition
• Died after 2 months at home
Learning objectives

The overall management of patients with acute malignant bowel obstruction (AMBO)

Nutritional & surgical issues

Ethical issues