Management of Adhesive Small Bowel Obstruction

Supporting Data:

1. Early identification of strangulated bowel allows for faster treatment and improved outcomes.
2. Accurate diagnosis of strangulation cannot be made using physical exam or laboratory studies.
3. Most sensitive and specific modality for diagnosing strangulation is a non-contrast CT scan followed by an arterial and venous phase looking for enhancement of bowel wall.
4. Oral Gastrografin has been shown to be both diagnostic and therapeutic in the management of adhesive small bowel obstruction.
   a. Decreases time to resolution.
   b. Decreases hospital length of stay.
   c. Contrast in the colon after 24 hours is 99% predictive of resolution of obstruction.
5. 100% of patients who will resolve their obstruction non-operatively will show signs of resolution within 48 hours.
6. Non-operative management can be safely carried out for up to 72 hours.

Recommended Treatment Protocol:

1. If strangulated SBO is present, proceed with operative intervention.
2. If strangulation is not present and patient has a simple small bowel obstruction, proceed with non-operative management.
3. Decompress the stomach with NGT as soon as the diagnosis of simple small bowel obstruction has been made.
4. Once the stomach has been decompressed, order a single view abdominal film to be performed in radiology with the following comment “administer 150 mL of gastrografin via the NGT and clamp the NGT.”
5. Place an order in epic for nursing to do the following: “Keep the ng tube clamped unless the patient develops severe nausea and emesis, then unclamp the tube and hook to suction. If the tube is unclamped, notify the Acute Care Surgery on call pager.”
6. Admit the patient for resuscitation and serial abdominal exams.
7. Obtain a single view abdominal film to be performed in radiology 8 hours after contrast placement. If there is contrast in the colon, remove the nasogastric tube and start a clear liquid diet, advancing to low residue foods as tolerated.
8. If there is no contrast in the colon order an additional single view of the abdomen to be performed in radiology at 24 hours after placement of contrast.
   a. If there is contrast in the colon, see number 7.
9. If there is no contrast in the colon after 24 hours, the patient will not resolve their obstruction non-operatively and needs surgical intervention.
10. If there are is contrast in the colon and the patient does not tolerate diet advancement and has not shown signs of resolution, the patient can be managed non-operatively for up to 72 hours as long as he/she does not decompensate.
11. Failure of resolution within 72 hours means failure of non-operative management and surgical intervention is required.
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Clinical history and physical exam consistent with bowel obstruction

Contrasted CT scan:

Simple bowel obstruction

Immediate NGT decompression

Peritonitis; hemodynamic instability

Signs of Strangulation:
- Reduced bowel wall enhancement
- Bowel wall thickening
- Mesenteric fluid
- Ascites
- Mesenteric congestion

Exploratory Laparotomy

Failure to resolve bowel obstruction within 72 hours

Clinical deterioration

Failure of non-operative management

Contrast reaches the colon

Contrast fills colon on repeat x-ray

Clinical resolution of obstruction

Removal NGT and feed patient

Scant contrast

Yes

No at 24 hours

Once stomach decompressed, inject 150 mL Gastrografin through NGT and clamp NGT

Abdominal plain film 8 hours and 24 hours after administration of Gastrografin

Contrast

Yes

Failure to resolve bowel obstruction within 72 hours

Consider non-operative management up to 72 hours

Yes

Failure of non-operative management

Clinical deterioration

Failure to resolve bowel obstruction within 72 hours

Yes

Contrast fills colon on repeat x-ray

Clinical resolution of obstruction

Remove NGT and feed patient
References: