Gastrografin - Use in Adhesional Small Bowel Obstruction - Full Clinical Guideline

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1. Introduction

Small bowel obstruction is a blockage of the small bowel (SBO). The most common cause of SBO is by scar tissue from previous surgery known as adhesions; other causes are abdominal wall hernia or cancer. Small bowel obstruction is the most common indication for emergency laparotomy in the UK and is associated with a high risk of morbidity and mortality.

The use of water soluble contrast agents such as Gastrografin can accurately predict whether adhesional SBO will resolve. Water soluble contrast agents often have a therapeutic effect and may expedite resolution of obstruction, allowing earlier discharge and reduce the need for surgery in some patients.

Gastrografin is the most commonly used water soluble agent. It works by activating the movement of water into the small bowel lumen, thus decreasing oedema of the small bowel wall and enhancing muscle contractility which in turn generates effective peristalsis.

2. Aim and Purpose

To provide guidance for all clinical staff on the diagnosis and treatment of adhesional small bowel obstruction in adult patients admitted to Royal Derby Hospital and Queens Hospital Burton.

3. Definitions, Keywords

SBO – Small bowel obstruction

SAU - Surgical assessment unit

RDH- Royal Derby Hospital

QHB- Queen's Hospital Burton

4. Guideline

Diagnosis

Patients with symptoms suggestive of obstruction should be admitted under general surgery. Symptoms include abdominal pain, vomiting and abdominal distension.

Treatment with intravenous fluids for rehydration must be commenced prior to any diagnostic imaging. CT of the abdomen & pelvis**,** *ideally with contrast* should be performed to confirm diagnosis and provide prognostic information for patients requiring urgent surgery.

Treatment

If the CT indicates an obstruction due to a mechanical cause or the patient is clinically unstable or has marked tenderness consideration should be given to surgery.

If the CT indicates suspected adhesional SBO and the patient is clinically stable a STAT dose of Gastrografin 100ml undiluted should be prescribed to be given orally or via an NG tube where necessary. Where a nasogastric tube is in place the tube should be aspirated and then spiggotted prior to and for 60 minutes after administration to encourage absorption.

The decision to prescribe Gastrografin should be made by a senior surgical doctor (ST3 or above) and documented in the medical notes. Gastrografin should be prescribed using the relevant EPMA system.

The surgical team should consider a plain X-Ray 4 to 6 hours after Gastrografin has been administered if the obstruction has not resolved clinically. IF contrast has not yet reached the colon at 6 hours conservative treatment of the obstruction is unlikely to be successful.

Gastrografin is kept as stock on the following wards:
Ward X-Ray, 308, 309 and on SAU at RDH.
Ward 19 and in the Pharmacy Out of Hours Cupboard (POOH) at QHB.
It should not be borrowed from elsewhere.

Contraindications

Gastrografin is contra-indicated in patients with allergies to iodine.

Gastrografin must not be administered undiluted in patients with low plasma volume or in dehydrated patients, since hypovolaemic complications can be particularly serious in these patients.

Gastrografin must not be administered undiluted in patients with suspected possibility of aspiration or broncho-oesophageal fistula, since hyperosmolarity may cause acute pulmonary oedema, chemical pneumonia, respiratory collapse and death.

Special warnings and precautions for use

<u>Gastrointestinal</u>
In case of prolonged retention of Gastrografin in the gastrointestinal tract (e.g. obstruction, stasis), tissue damage, bleeding, bowel necrosis and intestinal perforation may occur.

<u>Hydration</u>
Adequate hydration and electrolyte balance should be established and maintained in the patients, since the hyperosmolarity of Gastrografin may cause dehydration and electrolyte imbalance.

<u>Hypersensitivity</u>
As with other contrast agents, Gastrografin can be associated with anaphylactoid or hypersensitivity reactions. Delayed reactions may occur hours or days later. Reactions can be characterized by cardiovascular, respiratory, or cutaneous manifestations and have a higher prevalence in those who have a history of allergic disorders, bronchial asthma, or anaphylactoid/hypersensitivity reactions to iodinated contrast media. Beta- blockers, and Interleukin-2 medications are also associated with an increased risk of hypersensitivity and delayed reactions.

Review

The patient should be reviewed daily.

A plain X-ray should be considered if the team is unsure if the obstruction is resolving. If there has been no improvement after 72 hours surgery should be considered.

5. References (including any links to NICE Guidance etc.)

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6. Documentation Controls

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