

EVALUATION AND MANAGEMENT OF INTESTINAL OBSTRUCTION

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Abstract:

Acute intestinal obstruction occurs when there is an interruption in the forward flow of intestinal contents. Intestinal Obstruction is most Commonly caused by intraabdominal adhesions, malignancy or intestinal herniation. The aim of this study is to evaluate the patients radiologically & clinically to assess the criteria to manage the intestinal obstruction by immediate surgery or by conservative care.

Keywords : intestinal obstruction, herniation, adhesions.

Introduction:

Intestinal obstruction accounts for approximately 15% of all emergency patients visits for acute abdominal pain.¹ In 2007 the Eastern Association for the surgery of Trauma (EAST) developed modern guidelines for the management of small bowel obstruction.² The guidelines offered 12 evidence based, recommendation for the diagnosis and management of small bowel Obstruction based on a systemic review of the English literature, published between 1991 and 2006.

The evaluation of patients with suspected intestinal Obstruction endeavors not only to confirm the diagnosis but also to determine the need for and timing of Surgery.

The work up should distinguish mechanical. Obstruction from ileus, determine the cause of Obstruction and differentiate partial from complete Obstruction. In addition the patient should be assessed for signs of bowel Obstruction. Detail history and thorough physical examination is the basic requisite for the diagnosis of intestinal Obstruction. Laboratory investigations are required to find out the presence of metabolic derangements, acidosis or leucocytosis.

In addition to clinical diagnosis radiology play an important role to confirm the diagnosis of small bowel obstruction. Following radiological imaging modalities are useful to confirm the diagnosis of small bowel Obstruction:

Plain Radiography: patients with acute abdominal pain with clinical findings in favor of intestinal Obstruction should be investigated with plain upright abdominal radiography. Radiography can quickly determine if intestinal perforation has occurred, free air can be seen, above the liver in upright films or left lateral decubitus films. Radiography accurately diagnoses intestinal Obstruction in approximately 60% of cases³ and its positive predictive value. approaches 80% in patients with complete intestinal Obstruction.⁴ However plain abdominal film can appear normal in every Obstruction and in high jejunal or duodenal Obstruction. Therefore when clinical suspicion for Obstruction is high or persists despite negative initial radiography, non contrast computed tomography (CT.) should be performed.⁵

Ultrasonography: It is 85% sensitive to high grade intestinal Obstruction.⁶ However large availability of CT; has replaced the ultrasonography as the first line

investigation in stable patients with suspected intestinal Obstruction.

Computer Tomography: CT Scan is 83% to 94% accurate at diagnosing intestinal Obstruction.^{7,8} Findings consistent with small bowel Obstruction on CT Scan include –

A transition point with dilation of bowel proximally and decompression distally

A decompressed colon

Failure of intraluminal contrast to pass beyond the transition point

CT scan can determine not only the level of obstruction (93%) but also the cause (80 – 90 %) in most patients.^{7,8,9}

CT Scan can also be used for the detection of small bowel volvulus, predictors include multiple transition points, posterior location of transition point and the presence of the Whirl sign^{10,11} “Whirl sign” refers to a “Characteristic Swirl of the mesenteric fat and soft tissue attenuations with adjacent loops of small bowel surrounding rotated intestinal vessels”

MRI: It is 95% sensitive, 100% specific to diagnoses the small bowel the and 73% accurate at determining the level of Obstruction.¹²⁻¹⁶

Contrast studies, enteroclysis are other imaging modalities for diagnosis of intestinal Obstruction.

Material & Method

34 patients, 18 male, 16 female between the age group of 24 years to 62 years, during the period of 2012 to 2015 were managed at multiple centre's. Out of 34 patients 20 patients were managed conservatory and 14 patients were operated for management of intestinal Obstruction.

The Patient were allocated either to immediate surgical intervention or conservative care with nasogastric aspiration and intravenous fluid depending on clinical and radiological evaluations Patients managed conservatively who had not settled after 48 hours were operated on. The data were analysed.

Conservative Management: It is undertaken in stable patient, with partial intestinal Obstruction & in some patient with complete intestinal Obstruction as initial management, Using intestinal intubation rehydration and antibiotic. Conservative management is successful in 40 to 70 % of clinically stable patients with a higher success rate in those with partial Obstruction.^{17 - 19} With conservative management resolution generally occurs within 24 – 48 Hours. Beyond this time frame, the risk of complication, including vascular compromise, increase of intestinal Obstruction is not resolved with conservative management, surgical evaluation is required.¹⁸

Conservative management is directed to correcting physiological derangements caused by the Obstruction, bowel rest. physiological derangement is addressed by intravenous fluid, resuscitation with isotonic fluid. The use of a bladder catheter to closely monitor urine output is the minimum requirement for gauging the adequacy of resuscitation., other invasive measures, such as arterial canalization or central venous pressure monitoring, can be used as the clinical situation warrants. Antibiotics are used to treat intestinal our growth of bacteria and translocation across bowel wall. Aggressive replacement of electrolytes is recommended after adequate renal function is confirmed.

Surgical Management: The decision to perform surgery for intestinal Obstruction can be difficult. Peritonitis, clinical instability or unexplained leucocytosis or acidosis are concerning for abdominal sepsis, intestinal ischemia or perforation, these findings mandate immediate surgical exploration. Patients with intestinal obstruction, that resolves after reduction of a hernia should be scheduled for elective hernia repair, whereas immediate surgery is required in patients with irreducible or strangulated hernia.

Early operative management is performed in patients with suspected bowel strangulation because this is associated with an increased morbidity and mortality. Clinical indicators, include fever, leucocytosis, tachycardia, continuous pain, metabolic acidosis, peritonitis and the systemic inflammatory response syndrome (SIRS).

In addition of this imaging studies will identity most patients who need early operative intervention.^{20 - 22}

Result

There were 34 patients out of which 20 patients were treated conservatively & 14 patients were operated for intestinal Obstruction. 4 patients were operated immediately after confirmation of complete bowel Obstruction with likelihood of impending complications and 10 were operated after failure of conservative management. There were no post operative deaths.

Concussion

Conservative management of acute intestinal Obstruction is safe and 60% patients settle. In those who fail to settle, there is no significant increased risk of intestinal strangulation. Imaging plays an important role to confirm the diagnosis.

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