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Post Operative Adhesive Small Bowel Obstruction: A Prospective Observational Study

Dr. V Manoj[1], Dr. Saraswat Bharti[2], Dr. Sharma Avdhesh Kumar[3]

[1, 2, 3]Department of General Surgery, Dr.SN Medical College, Jodhpur, Rajasthan, India

[1]Corresponding Author Email: *manu.manojv391[at]gmail.com*
ORCID - 0009-0002-7186-2428

Abstract: ***Introduction: Bowel adhesions are abnormal intraperitoneal fibrous bands connecting bowel surfaces to each other. Adhesive bowel obstruction (ABO) is one of the leading causes of surgical emergencies, it accounts for 60% of cases presenting with small bowel obstruction. Objectives: To study about the clinical parameters which helping in predicting need for surgery in Post Operative ABO patients. Methodology: A prospective observational study conducted in department of surgery, Dr.SN medical college and associated group of Hospitals (MDM, MGH) Jodhpur. sample size of 100 in the year 2023 to 2024. Results: Abdominal pain, Vomiting and Fever presenting together in a patient was considered significant as these group of patients underwent surgical management. CECT imaging is a very useful tool diagnostic and therapeutic. Considering Laproscopic approach whenever possible helps in reducing the incidence of Post Operative ABO.***

Keywords: ABO, CT imaging, Abdominal Pain, Fever, Vomiting

1. Introduction

A breach in peritonium during abdominal surgery leads to adhesion formation. Adhesive bowel obstruction accounts for more than 60% of small bowel obstruction. Open midline laprotomy and Pelvic surgeries are associated with a higher risk of ABO. The management of ABO is either surgical or conservative. ABO results in an average hospitalisation of 8 days, for surgically treated patients its around 14 to 16 days and for conservatiely managed it's around 5 to 7 days, with hospital mortality of 3% per episode. The severity of symptoms and signs varies from patient to patient. In this study the clinical parameters which help in predicting need for surgery are analysed, Based on which patients are categorised into conservative or surgical management.

2. Materials and Methods

This is a prospective observational study conducted on 100 patients of ABO in the year 2023 to 2024. When patient reached emergency center with complains of pain abdomen, obstipation and history of previous abdominal surgery daignosis of ABO was made. Patient was resusicated with I.V fluid, Ryles tube insertion . Patients who showed signs of bowel ischemia in spite of initial resuscitation were managed surgically. Patient who showed signs of improvement post resuscitation were further investigated; this group of patients were considered for this study.

In the study group patients, monitoring of pulse rate, abdominal girth, quality and content of ryles output, per rectal examination, serial X ray FPA, CT Abdomen and blood investigation- TLC, S.LDH, S.Lactate, S.Potassium, C.R.P level were done. With the help of above parameters patients' course of management was decided.

3. Results

	Sensitivity	Specificity	PPPV	NPV
Abdominal Pain	30.86%	100%	100%	25.3%
Vomiting	40.9%	87.5%	72%	65.3%
Abdominal Distension	36.2%	90.47%	84%	50.6%
Constipation	44.11%	84.8%	60%	74.6%
Abdominal Tenderness	32.05%	100%	100%	29.3%
Abdominal Guarding	79.3%	97.18%	92%	92%
Abdominal Rigidity	100%	85.22%	48%	100%
Dilated Bowel Loops	91.4%	36.6%	24%	14.6%
Muliple Air Fluid Level	63.3%	91.42%	76%	85.3%
CT-Scan	67.6%	98.4%	95.8%	85.5%
Leucocytosis	86.2%	100%	100%	94.6%
S.LDH	86.2%	100%	100%	94.6%
S. Lactate	73.5%	100%	100%	88%

In this study abdominal pain was the most common symptom accounting 81%, vomiting accounting for 44%, distension accounting for 58%, obstipation accounting 34% of symptoms.

In clinical signs, tenderness was present in 78%, guarding in 29%, rigidity in 12% of patients. tenderness had 100%, guarding had 97.18%, rigidity had 85.22% specificity respectively. CT and X Ray FPA has a specificity of 98.42% and 91.42 % respectively. Raised in leucocyte count 29%, S.LDH 29% and S.Lactate 34% was seen in patients.

4. Discussion

Out of all the parameters abdominal pain was most common symptom, Tenderness, rigidity and guarding together has greater specificity. S.LDH and leucocytosis were most reliable biochemical parameter in considering patients for surgical management. In radiological investigation CECT abdomen was found to be accurate in diagnostic and to some extent as a therapeutic tool, but CECT can not be done in patients with derranged renal function and non availability. In those situations above mentioned clinical paraments were

used in making decision for surgical management. Since prevention is always better than cure considering laproscopic approach whenever feasible and use of adhesion barriers in open surgery should be considered.

Declarations
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