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Clinical study of Acute Intestinal Obstruction

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Abstract
Background: *Acute intestinal obstruction is one of common abdominal emergencies and is associated with significant morbidity and mortality, especially if it progresses to bowel ischemia. The aim of this study is to analyse various modes of presentation of acute intestinal obstruction in both children and adult age group, etiopathogenesis, various therapeutic modalities of treatment and to accomplish operative management and anticipate the post-operative complication.*
Aims and Objectives: *1.To analyze the different clinical presentations, causes and treatment options available for intestinal obstruction cases.*
2. My dissertation includes study of 50 cases of intestinal obstruction on randomized selection.
3. To diagnose the intestinal obstruction early so that we can prevent complications caused by delayed diagnosis and treatment.
4. To study the follow up and analysis of these patients for 3 months.
Methods: *Fifty consecutive patients of all age groups presenting with acute intestinal obstruction were admitted in Andhra Medical College King George hospital were taken randomly and managed between January 2017 to January 2018. A detailed examination was done as per proforma after admission. Plain X-ray erect abdomen was done in all cases except inguinal hernias with obstruction.*
Results: *Mean age distribution was 45 years. Incidence in male was more compared to female. Pain abdomen was found in 50(100%), vomiting in 44 (88%), distension abdomen in 40 (80%) and constipation in 46 (92%) patients as main complaint. Commonest cause was postoperative adhesions. Mean duration of stay in hospital was between 1-5 weeks (average 2 weeks).*
Conclusion: *All age groups were involved. More commonly found in males than females. Main complaint was pain abdomen followed by constipation, vomiting, and distension. Plain X-ray abdomen and ultrasonography were important. Pathology ranged from simple bands to malignant obstruction. Postoperative adhesions were the commonest cause of obstruction. Earlier the presentation better the outcome was found.*
Keywords: *Intestinal obstruction, Intussusception, Resection and anastomosis.*

Introduction

Bowel obstruction one of the most common condition we face in emergency setting. It is defined as obstruction in forward propulsion of the contents of intestine either due to mechanical or neurological causes. This obstruction can

involve only the small intestine, the large intestine or via systemic alterations, involving any segment of the bowel, both the small and large intestine. It may or may not be associated with underlying bowel necrosis (complicated obstruction). It can affect all age group. It can present with various symptoms and signs. Various underlying pathological conditions can lead to it.

The main aim of my dissertation is to study the various clinical features, an obstruction case can present with, the underlying pathologies leading to it and the various treatment options available to treat it. Early diagnosis and proper intervention of this clinical condition can decrease mortality and morbidity. so many studies were going about various clinical presentations and underlying causes for this condition. If a surgeon can detect this condition early and intervene at correct time with proper treatment, it would be beneficial both for the patient and the nation, by decreasing the hospital stay, pre and post operative complications.

Even though so many new interventional techniques and treatment options available in this era of evidence based medicine, acute intestinal obstruction still cause significant morbidity and mortality in third world countries and developing nations like India. Investigative tools and various treatment options will be different from most of the studies conducted in western world compared with our Indian setup

Materials and Methods

The materials for the clinical study of intestinal obstruction were collected from cases admitted to various surgical wards in our hospital during the period from June 2015 to October 2017, fifty cases of intestinal obstruction have been studied.

Inclusion Criteria

 This study is conducted on patients who presented with clinical features of intestinal obstruction.

Exclusion Criteria

 Patients who are lost for follow up

 Patients who are not willing and not given consent for the study

Patients who were having sub acute intestinal obstruction were treated conservatively were also included in the study, to know the importance of conservative management in selected cases, obstruction which were managed surgically were studied to establish the pathology of intestinal obstruction with an aim to know the mode of presentation, physical findings, radiological and hematological findings, operative findings and outcome of acute intestinal obstruction. After the admission of the patient, clinical data were recorded as per Proforma. The diagnosis mainly based on clinical examination and often supported by hematological and radiological examinations**.**

Methods

Study is divided into

1) Clinical features.

2) Investigations.

3) Treatment.

Study was conducted under the following headings:

I. History taking.

II. Physical examination.

III. Laboratory examination.

IV. Radiological examination – Plain X-ray erect abdomen

V. Ultrasound examination in selected cases

VI. CECT abdomen in selected cases.

VII. Surgical treatment and results

VIII. Follow-up

Results

Mean age distribution was 45 years. Incidence in male was more compared to female. Pain abdomen was found in 50(100%), vomiting in 44 (88%), distension abdomen in 40 (80%) and constipation in 46 (92%) patients as main complaint. Commonest cause was postoperative adhesions. Mean duration of stay in hospital was between 1-5 weeks (average 2 weeks).

Age distribution

Age	Total cases
0-10	00
11-20	05
21-30	05
31-40	06
41-50	11
51-60	10
61-70	08
71-80	03
81-90	02

Levels of obstruction

Small Bowel	Large bowel
41	9

Clinical features

Symptoms and signs	No. of cases	Percentage
Pain abdomen	50	100
Vomiting	44	88
Tenderness	45	90
Abdominal distention	40	80
Constipation	46	92
Absent bowel sounds	30	60
Groin swelling	9	18
Guarding	28	56
Rigidity	2	4
Significant PR findings	1	2

Aetiology of small bowel obstruction

Causes	Cases	Percentage
Adhesions	20	40
Obstructed hernias	7	14
Small bowel volvulus	5	10
TB stricture	3	6
Meckels diverticulum	1	2
Intussusception	2	4
Stricture	3	6

Aetiology of large bowel obstruction

Causes	Cases	Percentage
Neoplasms	3	6
Hirschprung's	3	6
Volvulus	2	4
Intussusception	1	2

Small bowel obstruction 41 cases

Causes	Cases
Adhesiolysis	16
Resection and anastomosis	12
Volvulus derotation	03
Hernia repair	05
Resection and hernia repair	04
Meckel's diverticulectomy	01
Total	41

Large bowel obstruction 09 cases

Causes	Cases
Resection and anastomosis	03
Colostomy	05
Milking of intussusceptions	01
Total	09

Discussion

Intestinal obstruction continues to be the most common surgical emergency. Proper understanding of the underlying pathophysiology of this condition, most common clinical symptoms and signs will enable a surgeon to deal the situation appropriately. Diagnosing this condition as early as possible would be beneficial. The treating surgeon could detect at early gangrenous state of obstruction, if there was a proper knowledge about the symptoms and signs. so that the complications would be reduced. And can bring down the mortality and morbidity due to this condition.

So many studies went on to study the clinical features and management of the intestinal obstruction. Here is the comparison between few of those studies with present study, regarding incidence, age and sex distribution, clinical presentation, management, post operative complications, mortality and follow up.

In present study a total number of 5292 patients were admitted in the surgery department from June 2015 to October 2017. A total of 248 patients presented with features of intestinal obstruction. Among these 50 cases were randomly selected for the present study.

The present discussion is to compare different studies that were done on intestinal obstruction, and to compare the disease incidence, age incidence, sex incidence between these different studies, the various underlying causes leading to obstruction in various studies, the most common clinical symptoms and signs patients present with to emergency department and the comparison of incidence of those symptoms and signs between these studies.

And how to diagnose this condition as early as possible so that the treating surgeon can decrease the mortality and morbidity due to delayed diagnosis. Various modalities available to diagnose intestinal obstruction like x-ray of erect abdomen, ultrasound abdomen in complicated hernias to rule out the bowel status and Contrast Enhanced Computed Tomography (CECT) with intravenous contrast in selected patients. The various treatment modalities that are available at present, where to chose conservative non operative treatment and where to plan open surgical procedure. And various surgical procedures that are available depending upon the underlying cause and the patient general condition and other co morbid conditions. Different post operative complications that may occur after surgery like wound infection, septicemia, post operative pneumonia, urinary tract infection . The incidence of mortality and comparison of mortality between these other studies. And finally the post operative follow up of cases , and the various complications that were encountered in thisfollow up period like wound infection, recurrence of intestinal obstruction were discussed

Conclusion

Not all cases of intestinal obstruction need surgery, we have to wisely choose when to operate, when not to. Most common cause of intestinal obstruction in our study is adhesions (40 %) from previous abdominal surgeries, other frequent causes were obstructed hernias (20 %), stricture (10 %), volvulus (10 %). X-ray of erect abdomen is sufficient enough to diagnose intestinal obstruction, CECT abdomen may be necessary in some situations and to detect underlying cause of obstruction. Treatment varies depending upon the patients general condition and underlying cause of obstruction. In our study we were successfully able to manage 22 % cases successfully, most of them were due to adhesions from previous abdominal surgeries, other underlying causes were ruled out by CECT Abdomen. All the cases with signs of peritonitis i.e, guarding, tachycardia need immediate surgical intervention. Type of surgery varies from underlying cause, patients intra operative condition, and the surgeons skill in those emergency situations. Post operative complications were wound infection, post operative pneumonia, sepsis. In our study those 3 people who died, have other co morbid conditions and underwent prolong surgery with resection and anastamosis procedure, with delayed recovery from general anesthesia. A simple diversion ostomy procedure will decrease duration of surgery, and decrease operative trauma to the patient. In follow up, 2 wound infections were noted within 4 days after discharge from hospital , due to poor hygiene.

1 Respiratory tract infection

2 Recurrences were noted, one after 45 days after surgery, another 72 days after surgery Both the recurrences were due to adhesions and managed conservatively.

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