



GASTROINTESTINAL SURGERIES; OPERATIVE DIAGNOSIS AND POSTOPERATIVE OUTCOME OF PATIENTS UNDERWENT GASTROINTESTINAL SURGERIES

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ABSTRACT... Objectives: To determine the operative findings of patients underwent gastrointestinal surgeries and postoperative outcome according to Clavien-Dindo system. **Study Design:** Prospective study. **Setting:** Isra University Hospital Hyderabad and LUMHS Jamshoro/Hyderabad. **Period:** One year duration from 2014 to 2015. **Material and methods:** Total 50 patients were included those were underwent Gastrointestinal Surgery. After taking detailed history and clinical examination, relevant investigations i.e. CBC, abdominal X-ray, Methylene Blue Test to confirm the leaks and abdominal ultrasound were done. All operative findings and postoperative outcome according to Clavien-Dindo system was recorded in the proforma. After collection of data was analysed by (SPSS) version16.0. **Results:** Total 50 cases studied, their mean age was 46.6 ± 9.7 years, male were found in majority 36 (72.0%) while female were 14 (28.0%). Most common diagnosis in of patients those underwent gastrointestinal surgeries were typhoid perforation 22.0%, tuberculosis 18.0%, Duodenal perforation 20.0% and intestinal obstruction was 10.0%. Postoperative outcome was assessed according to the Clavien-Dindo scoring system as; majority of the cases 16 (32.0%) were found without complications, 12 (24.0%) with grade II, followed by 10 (20.0%) were with grade I, 04 (08.0%) were with grade III, only 2 (4.0%) cases were found with grade IV and 06 (12.0%) cases were died during follow up and those were with grade V. **Conclusion:** It is concluded that most common operative findings were typhoid perforation, tuberculosis, duodenal perforation and intestinal obstruction findings inpatients those underwent gastrointestinal surgeries. According to the Clavien-Dindo scoring system and majority of the cases were with grade I and grade II and 6 cases were died those were enrolled as grade V.

Key words: Intestinal surgeries, diagnosis, outcome

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INTRODUCTION

Abdominal pain is the commonest cause behind visits to Hospital emergencies. Though mostly cases symptoms are benign and the self-limited, the subset diagnosed with the (acute abdomen), as the results of serious intra-abdominal pathology requiring interventional emergency.^{1,2} It may due to different etiologies as; peritonitis, appendicitis, cholecystitis, bowel obstruction, visceral perforation, diverticulitis, acute pancreatitis and salpingitis etc. It is most frequently encountered the surgical emergency and also is correlated with higher rate of mortality.³ Estimated 15% cases hospitalized with acute abdomen having intestinal obstructions and the small bowel obstructions accounts for the 80% cases throughout the world.⁴ Disease severity

depends on the site of obstruction and its duration. As occurring in upper GI tract particularly in the duodenum, stomach and the esophagus, it tends to have less urgent presentation, however in small bowel and colon it frequently occurs as the medical emergency.⁵ Adhesive obstruction and cancer are commoner in the prosperous Chinese as compared with the less affluent Malays and Indians in whom external hernias predominate. Adhesions and malignant lesions account for the majority of cases of intestinal obstruction in the United States, United Kingdom and Japan while in Africa the spectrum is very different and external hernias are by far the most common behind intestinal obstructions. These surgical emergencies faced by the surgeons now a days.⁶ Though lot of the improving work have been

done this event, while still challenging for the surgeon from the diagnostic and the therapeutic point of view. Cases mostly presented with the acute abdomen, distension, nausea and vomiting and constipation. Ileocaecal site mostly involved including ileum but any site of peritoneal cavity may be affected.⁷ Surgical techniques are also varying depending on operative finding.⁸ Patient's evaluation with the acute abdominal pain may pose a diagnostic challenge to the physicians as cases may presents with the atypical symptoms which interfere with usual pattern identification that often guides to make the decision.¹ Different studies showed different causes behind gastrointestinal surgeries and its outcome in different terms. This study has been conducted to evaluate the diagnosis of patients underwent gastrointestinal surgeries and postoperative outcome according to Clavien-Dindo system at tertiary care Hospital.

MATERIAL AND METHODS

This prospective study was conducted at Isra University Hospital Hyderabad and LUMHS Jamshoro/ Hyderabad in all surgical units. Study duration was 1 year from 2014 to 2015. All the patients underwent Gastrointestinal surgeries were included. Written informed consent was obtained from the patients or their attendants. Detailed medical history and clinical examination were done in all the patients including investigations i.e. CBC, abdominal X-ray, and Methylene Blue Test to confirm the leaks and abdominal ultrasound were done. All the operative findings of patients and postoperative outcome according to Clavien-Dindo scoring system were recorded and entered in the proforma. Complete followed-up was carried out in all the cases. If they remain free of any complication, they were discharged. Details of each patient were recorded on a proforma designed for this study. All the data was analyzed by using SPSS program 16.0.

RESULTS

Total 50 cases studied with and their mean age was 46.6 ± 9.7 years, male were found in the majority 36 (72.0%) while female were 14 (28.0%). Table-I.

According to clinical presentation abdominal pain was found in all cases 50 (100.0%), following of

constipation, abdominal distension, nausea, vomiting, and unconscious with percentage of 40 (80.0%), 35 (70.0%), 42 (84.0%), 20 (40.0%), and 02 (4.0%), respectively. Table-I.

Most common operative diagnosis of patients those underwent gastrointestinal surgeries were typhoid perforation 22.0%, tuberculosis 16.0%, Duodenal perforation 20.0%, followed by volvulus, intestinal obstruction, gastric outlet obstruction, multiple strictures, obstructed hernia, trauma, typhoid perforation and perforated appendicitis were found with percentage of 02 (04.0%), 05 (10.0%), 02 (04.0%), 02 (04.0%), 03 (06.0%), 03 (06.0%) and 03 (06.0%) respectively, while 01/ (02.0%) cases were found with carcinoma. Table-II.

30.0% patients were underwent emergency surgery and 70.0% patients underwent elective surgery. Fig-1.

Post-operative outcome was assessed according to the Clavien-Dindo scoring system, our results did not completed all requirements of Clavien-Dindo scoring system, but some complications were found according to classification of it, though on that basis patients were divided in grading. As ; majority of the cases 16(32.0%) were found without complications, 12 (24.0%) with grade II, followed by 10(20.0%) were with grade I, 04 (08.0%) were with grade III, only 2(4.0%) cases were found with grade IV and 06 (12.0%) cases were died during follow up and those were with grade V. Table-III.

Characteristics	No. Of pt: (%)
AGE	46.6 ± 9.7 years
Mean age (mean \pm SD)	
GENDER	
Male	36(72.0%)
Female	14(28.0%)
Clinical presentation	
Abdominal pain	50(100.0%)
Constipation	40(80.0%)
Distension	35(70.0%)
Nausea	42(84.0%)
Vomiting	20(40.0%)
Unconscious	02(4.0%)

Table-I. Demographic characteristics of the (Patients N=50)

The Clavien-Dindo scoring system	
GRADE	DEFINITION
Grade I	Any deviation from the normal post-operative course not requiring surgical, endoscopic or radiological intervention. This includes the need for certain drugs (e.g. antiemetics, antipyretics, analgesics, diuretics and electrolytes), treatment with physiotherapy and wound infections that are opened at the bedside.
Grade II	Complications requiring drug treatments other than those allowed for Grade I complications; this includes blood transfusion and total parenteral nutrition (TPN).
Grade III	Complications requiring surgical, endoscopic and radiological intervention. Grade IIIa - Intervention not under general anaesthetic Grade IIIb - Intervention under general anaesthetic
Grade IV	Life-threatening complications; this includes CNS complications (e.g. brain haemorrhage, ischaemic stroke, subarachnoid haemorrhage) which require intensive care, but excludes transient ischaemic attacks (TIAS)
Grade V	Death of the patient

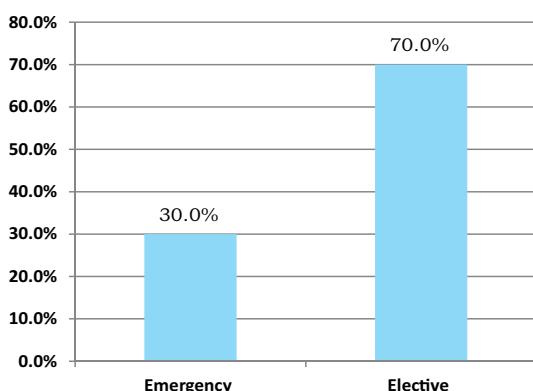


Fig-1. Patient's distribution according to type of surgery (N=50)

Operative findings	No. Of pt: (%)
Tuberculosis	08(16.0%)
Duodenal Perforation	10(20.0%)
Volvulus	02(04.0%)
Intestinal Obstruction	05(10.0%)
Gastric outlet Obstruction	02 (04.0%)
Multiple strictures	02(04.0%)
Obstructed hernia	03(06.0%)
Trauma	03(06.0%)
Typhoid perforation	11(22.0%)
Perforated appendicitis	03(06.0%)
Carcinoma	01(02.0%)

Table-II. Patient's distribution according to operative findings (N=50)

Clavien-Dindo system	No. Of pt: (%)
No complications	16 (32.0%)
Grade -I	10(20.0%)
Grade -II	12(24.0%)
Grade -III	04(08.0%)
Grade -IV	02(04.0%)
Grade -V	06(12.0%)

Table-III. Post-operative outcome according to Clavien-Dindo (Scoring system N=50)

DISCUSSION

Surgeries of the gastrointestinal tract are the common procedures worldwide. This study was conducted to evaluate the causative factors in those cases underwent gastrointestinal surgeries and their postoperative outcome according to Clavien-Dindo scoring system was assessed. In current study most common operative findings were typhoid perforation 22.0%, tuberculosis 16.0% and duodenal perforation 20.0% in patients those underwent gastrointestinal surgeries. In the comparison of this study of Masud M et al⁹ reported that operative findings were as typhoid in 22%, tuberculosis in 16.6%, duodenal ulcer perforation 14.6%, appendicitis 13.3%, traumatic perforation 12%, malignancy 10.6%, strangulation 4%, gastric ulcer 3.3%, volvulus 2%, Meckels diverticulum 0.6% and CMV ileal perforation was only in 0.6% cases. In another study of Shaikh MS et al¹⁰ stated that main operative findings were ileocaecal tuberculosis 34.3% strictures 25% and perforations 25% respectively.

In this study mean age of the patients was 46.6 ± 9.7 years and male were found in the majority 36 (72.0%) while female were 14 (28.0%). On other hand Sultan R et al,¹¹ also found male in majority 64.6% and female were 35.4%, while he found mean age of all cases 52.41 ± 16.34 years. Masud M et al⁹ reported that mean age was 30 ± 10 years which is inconsistent with our findings and Patel et al¹² and the Singh G et al¹³ also found comparable results regarding age. In this study according to clinical presentation abdominal pain was in all cases 50 (100.0%), following of

constipation, abdominal distension, nausea, vomiting, and unconscious with percentage of 40(80.0%), 35 (70.0%), 42 (84.0%), 20 (40.0%), and 2 (4.0%), respectively. These results are comparable with findings of Shaikh GS et al¹⁴ as 93% cases presented with pain of abdomen and 85% had fever. In the favor of this study Ansari AG et al.¹⁵ Stated that fever and abdominal pain were in all 100% cases. Hosoglu S et al.¹⁶ Conducted study in the Turkey and mentioned that pain of the abdomen was in all cases 100% and 92.5% cases had fever. In this series volvulus, intestinal obstruction, gastric outlet obstruction, multiple strictures, obstructed hernia, trauma, typhoid perforation and perforated appendicitis were found with percentage of 02 (04.0%), 05 (10.0%), 02 (04.0%), 02 (04.0%), 03 (06.0%), 03 (06.0%), 11 (22.0%) and 03 (06.0%) respectively, while 01/ (02.0%) cases were found with carcinoma.

These results are the comparable with the studies of Masud M et al⁹ and Shaikh MS et al¹⁰, while percentage of carcinoma very low in our study as compare to these studies, this difference may because sample size of our study was shorter. In this study 30.0% patients were underwent emergency surgery and 70.0% patients underwent elective surgery, further procedures were applied according to need of surgery. Comparable findings were reported by Singh A et al.¹⁷ In this study postoperative outcome was assessed according to the Clavien-Dindo scoring system, our results did not completed all requirements of Clavien-Dindo scoring system, but some complications were found according to classification of it, and on that basis patients were divided in grading.

Majority of the cases 16 (32.0%) were found without complications, 12 (24.0%) with grade II, followed by 10 (20.0%) were with grade I, 04 (08.0%) were with grade III, only 2 (4.0%) cases were found with grade IV and 06 (12.0%) cases were died during follow up and those were with grade V. Comparable findings were reported in the studies of Singh A et al.¹⁷ Casadei R et al,¹⁸ and Clavien PA et al¹⁹, but results on some places are consistent and on some places are inconsistent. In this series overall mortality rate 12.0%, which is

consistently reported in other studies as Singh A et al.¹⁷ reported mortality rate 10.85%.

CONCLUSION

It is concluded that most common operative findings were typhoid perforation, tuberculosis, duodenal perforation and intestinal obstruction in patients those underwent gastrointestinal surgeries. According to the Clavien-Dindo scoring system, majority of the cases were with grade I and grade II and 6 cases were died those were enrolled as grade V. Clinicians should highly concentrate the patients with acute abdomen. Early diagnosis and treatment may reduce the morbidity and mortality.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Rizwanullah Junaid Bhanbhro	Data collection and manuscript writing.	
2	Fida Hussain Shah	Data collection and manuscript writing.	
3	Sohail Ahmed Memon	Reveiw the manuscript and data analysis.	 Sohail Ahmed
4	Mujeeb-ur-Rehman Laghari	Interpretation data analysis.	