

A STUDY OF POST-SURGICAL COMPLICATIONS IN ACUTE ABDOMEN CONDITIONS*Bhooma Reddy Muthyala¹, Lingaraj Chauhan Lavud², Rajendra Prasad Kathula³*¹*Assistant Professor, Department of Surgery, Government Medical College, Nizamabad, Telangana.*²*Assistant Professor, Department of Surgery, Government Medical College, Nizamabad, Telangana.*³*Associate Professor, Department of Surgery, Government Medical College, Nizamabad, Telangana.*

ABSTRACT

BACKGROUND

The most common causes of the acute abdomen are acute appendicitis which may be perforated, typhoid ileal perforation, acute intestinal obstruction, gastroduodenal perforations, nonspecific abdominal pain, abdominal injuries, and acute cholecystitis. A summary of all the acute complications taken together will be the fact that all are associated with post-surgical complications. A sincere effort has been made to study the post-operative complications that a surgeon encounters while treating the acute abdomen cases. This study is intended to help the practising surgeons who deal with such complications. It also is intended to help the doctors who practice to identify such complications and thus refer the patients for immediate intervention.

METHODS

This study was conducted in the Department of General Surgery, Government Medical College, Nizamabad, Telangana. This study was done from June 2013 to May 2016. One hundred sixty patients who were admitted in the hospital after surgery for acute abdominal conditions were considered for the study. Thorough clinical examination was conducted and the complications that were encountered were noted and the complications were treated as per the need of the hour. The complications faced by the treating surgeon in each and every entity that was discussed earlier was duly noted and statistical analysis was conducted. All the statistical analysis was done using the latest SPSS software 2015 (California).

RESULT

In our study, the mean age of the study population was found to be 29.8 years. That means the majority of the patients who turn up in the Department of Emergency is young and generally in the third decade of life. In Acute Intestinal Obstruction and blunt abdominal injuries, significance of mortality is high ($p < 0.05$).

CONCLUSION

The study was successful in proving that abdominal injuries are the main factors of causing morbidity and mortality in the younger generation. The surgical mode of treatment is the only remedy and the General Surgeon who takes up these kinds of cases should be prepared to face the postoperative complications. It is not easy to treat these kind of cases and it is an uphill task for any practising surgeon.

KEYWORDS

Post-surgical, Complications, Acute Abdomen, Perforations, Internal Haemorrhage.

HOW TO CITE THIS ARTICLE: Muthyala BR, Lavudi LC, Kathula RP. A study of post-surgical complications in acute abdomen conditions. *J. Evid. Based Med. Healthc.* 2016; 3(71), 3855-3859. DOI: 10.18410/jebmh/2016/824

INTRODUCTION: The most common causes of the acute abdomen are acute appendicitis which may be perforated, typhoid ileal perforation, acute intestinal obstruction, gastroduodenal perforations, nonspecific abdominal pain, abdominal injuries, and acute cholecystitis.¹ It can be said that it is one of the most common causes of mortality in younger population. Acute appendicitis is one of the most common surgical emergencies that are handled by a General Surgeon. It appears suddenly, recurrent attacks of acute appendicitis in around twenty percent of the cases.

Low grade recurrent episodes of colicky pain and vomiting are the most common symptoms. Sometimes it can be complicated with perforation or with presence of large abscess. Although appendectomy is generally the surgical mode of treatment and is well tolerated, it is considered to be a major surgical intervention and can be associated with postoperative complications.^{2,3} Typhoid ileal perforation is also quite commonly encountered in a tropical country like ours. The treatment of typhoid ileal perforation has been controversial since the late 18th century A.D.⁴ Some authors have pointed out that the ideal operation for typhoid perforation should be simple and effective.⁴ Because this simple closure was not effective, trimming was done on the edges at the perforated site and this yielded better results.⁵ But the complications of the surgery are well documented. Acute intestinal obstruction is one more important acute abdomen emergency.

Financial or Other, Competing Interest: None.
Submission 12-08-2016, Peer Review 21-08-2016,
Acceptance 30-08-2016, Published 03-09-2016.

Corresponding Author:

Dr. Bhooma Reddy Muthyala,
H. No. 5-6-760/71, Khaleelwadi,
Nizamabad-503001, Telangana.

E-mail: drbhoommuthyala@gmail.com

DOI: 10.18410/jebmh/2016/824

The main cause of obstructions is obstructed hernia, malignancy and adhesions.⁶ Postoperative complications occurred in majority of patients. The main complications are wound infection, basal atelectasis, burst abdomen and prolonged ileus.⁶ Gastroduodenal perforations are also quite commonly encountered in the Emergency Department. A study reported 7 deaths in 139 patients treated conservatively.⁷ traditionally, traumatic and atraumatic perforations have been managed surgically and the complications of the surgical complications are well documented.⁸ Nonspecific abdomen pain can be seen in a number of cases. The disease varies from psychological illness to pelvic pathologies which may radiate pain to the abdomen. In many cases, exploratory laparotomy has to be done to find out the exact cause of pain. Blunt abdominal traumas are one of the most common surgical emergencies encountered in the Department of General Surgery. The number of vehicles have increased and so did the high speed motors and along with it the poor quality of roads have contributed to the increased number of incidences of blunt abdominal traumas. Blunt injury of the abdomen with polytrauma is one of the commonest causes of mortality in younger generation.

Thus, it is the need of the hour to immediately recognise a polytrauma patient with intra-abdominal injuries. The urgent resuscitation and treatment has to be offered to the patient at the hands of the proper surgeon. Otherwise the patient's life will be at risk. The infection is well known to set in as the main post-surgical complication especially if the wound is open and complicated. The most common organs that are injured in blunt traumatic injuries are spleen, liver, kidneys, intestines, pancreaticoduodenal injuries, diaphragm and urinary bladder. All the orifices have to be checked in order to rule this out. Internal haemorrhages are also to be checked and if found positive then immediate intervention needs to be done. The post-surgical complications are many and it is a challenge in itself to fight the post-operative complications if any major organs are involved. Acute cholecystitis is also one of the causes which makes the patient come to the emergency department. A study reported open operation was associated with a 7.7% morbidity rate and 1.9% for laparoscopic surgery, and a 5% mortality rate in open surgery and 1% for laparoscopic surgery.⁹ A summary of all the acute complications taken together indicates that all are associated with post-surgical complications.

A sincere effort has been made to study the post-operative complications that a surgeon encounters while treating the acute abdomen cases. This study is intended to help the practising surgeons who deal with such complications. It also is intended to help the doctors who practice to identify such complications and thus refer the patients for immediate intervention.

AIMS AND OBJECTIVES:

To study the Post-Surgical Complications in Acute Abdomen Conditions.

MATERIALS AND METHODS: This study was conducted in the Department of General Surgery, Government Medical College, Nizamabad, Telangana. This study was done from June 2013 to May 2016. One hundred sixty patients who were admitted in the hospital after surgery for acute abdominal conditions were considered for the study. Thorough clinical examination was conducted and the complications that were encountered were noted and the complications were treated as per the need of the hour. The complications faced by the treating surgeon in each and every entity that was discussed earlier was duly noted and statistical analysis were conducted.

All the statistical analysis was done using the latest SPSS software 2015 (California).

Inclusion Criteria:

Only the patients who had complications were taken up for the study.

Exclusion Criteria:

1. If the complications were seen before the surgery, such subjects were not taken up for the study.
2. All patients included in the study only belonged to the above-mentioned groups, other patients were not considered.

RESULTS:

	Mean
Age	29.08

Table 1: Mean Age of the Study Group

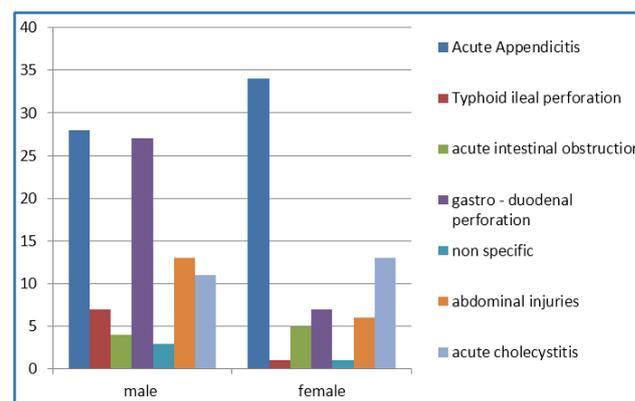


Fig. 1: Sex Wise Distribution of Disease Condition (n=160)

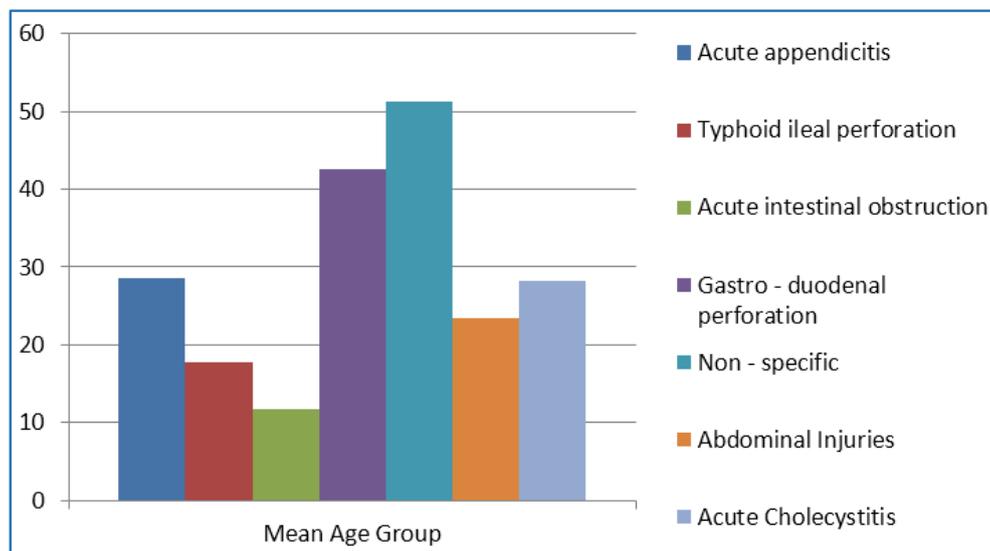


Fig. 2: Mean Age Wise Distribution of the Disease

Early Post-Operative Complications	Acute Appendicitis	Typhoid Ileal Perforation	Acute Intestinal Obstruction	Gastro - Duodenal Perforation	Non - Specific	Abdominal Injuries	Acute Cholecystitis
Pain	28	8	9	34	3	19	20
Fever	21	8	Nil	28	4	19	18
Internal haemorrhage	Nil	2	1	Nil	1	3	Nil
Wound or anastomosis dehiscence	2	5	6	Nil	Nil	7	Nil
Paralytic Ileus	13	8	9	21	Nil	Nil	Nil

Table 4: Early Post-Operative Complications

Late Post-Operative Complications	Acute Appendicitis	Typhoid Ileal Perforation	Acute Intestinal Obstruction	Gastro - Duodenal Perforation	Non - Specific	Abdominal Injuries	Acute Cholecystitis
Bowel obstruction due to fibrous adhesions	Nil	2	Nil	Nil	Nil	11	Nil
Incisional hernia	Nil	Nil	Nil	Nil	1	6	Nil
Persistent sinus	1	1	Nil	2	Nil	5	1
Recurrent operation for malignancy	Nil	Nil	5	Nil	1	Nil	Nil
Keloid formation	Nil	Nil	Nil	Nil	Nil	2	Nil

Table 5: Late Post-Operative Complications

Condition	Total	Mortality	X ² value	p value
Acute Intestinal Obstruction	9	1	12.9	0.005
Abdominal Injuries	19	3	8.9	0.030

Table 6: Significance for Mortality

In these cases the significance of mortality are high. (p<0.05).

DISCUSSION: In our study, the mean age of the study population was found to be 29.8 years. That means the majority of the patients who turn up in the Department of Emergency is young and generally in the third decade of life. Out of these patients, sixty-eight were diagnosed to have acute appendicitis. Out of these, twenty-eight patients were male and thirty-four were female patients. The mean age group which had this complication was found to be 28.6 years. In these patients, the early post-surgical complications that were encountered were pain in twenty-eight cases, fever in twenty-one cases, wound and anastomotic dehiscence in two cases and paralytic ileus in thirteen cases. The late complications that were encountered were persistent sinus in one case. None of the patients suffered mortality complications. Out of these patients, eight cases were diagnosed to have ileal perforation secondary to typhoid. Out of these, seven patients were male and only one was a female patient. The mean age group which had this complication was found to be 17.8 years. In these patients, the early post-surgical complications that were encountered were pain in all eight cases, fever in all eight cases, internal haemorrhage in two cases, wound and anastomotic dehiscence in five cases and paralytic ileus in eight cases. The late complications that were encountered were bowel obstruction due to fibrous adhesion in one case and persistent sinus in one case. None of the patients suffered mortality complications. Out of these patients, nine cases were diagnosed to have acute intestinal obstruction. Out of these, four patients were male and five were female patients.

The mean age group which had this complication was found to be 11.7 years. In these patients, the early post-surgical complications that were encountered were pain in all nine cases, internal haemorrhage in one case, wound and anastomotic dehiscence in six cases and paralytic ileus in all nine cases. The late complications that were encountered were bowel obstruction due to recurrent operation done for malignancy in five cases. Significant number of patients suffered mortality complications ($p < 0.05$).

Out of these patients, thirty-four cases were diagnosed to have gastro-duodenal perforation. Out of these, twenty-seven patients were male and seven were female patients. The mean age group which had this complication was found to be 42.6 years. Males were predominant in this group. This may be due to alcohol consumption that is frequently seen in the adult male population. In these patients, the early post-surgical complications that were encountered were pain in thirty four cases, fever in twenty eight cases and paralytic ileus in twenty one cases. The late complications that were encountered were persistent sinus in two cases and persistent sinus in one case. None of the patients suffered mortality complications. Out of these patients, four cases were diagnosed to have non-specific acute abdomen. Then, on exploratory laparotomy, three were diagnosed to have liver cirrhosis and one patient was having pancreatitis. Out of these, three patients were male and only one was a female patient. The mean age group which had this complication was found to be 51.2 years.

In these patients, the early post-surgical complications that were encountered were pain in three cases, fever in all four cases and internal haemorrhage in one case. The late complications that were encountered were incisional hernia in one case, and in one case recurrent operation for malignancy were done. None of the patients suffered mortality complications. Out of these patients, nineteen cases were admitted with trauma to abdomen. Out of these, thirteen patients were male and six were female patients. The mean age group which had this complication was found to be 23.5 years. In these patients, the early post-surgical complications that were encountered were pain in all nineteen cases, fever in all nineteen cases, internal haemorrhage in three cases, wound and anastomotic dehiscence in seven cases. The late complications that were encountered were bowel obstruction due to fibrous adhesion in eleven cases, Incisional hernia in six cases and persistent sinus in five cases. Significant number of patients suffered mortality complications ($p < 0.05$).

Out of these patients, twenty-four patients were diagnosed to have acute cholecystitis. Out of these, eleven patients were male and thirteen were female patients. The mean age group which had this complication was found to be 28.2 years. In these patients, the early post-surgical complications that were encountered were pain in twenty cases and fever in eighteen cases. The late complications that were encountered were persistent sinus in one case. None of the patients suffered mortality complications. When compared to the other studies conducted by Costa_OL et al,¹⁰ a significant association between inflammatory and perforated symptoms and postoperative sepsis was demonstrated in their study when compared with patients admitted and operated for obstruction or haemorrhage. Our study is in agreement with the study mentioned above.

CONCLUSION: The study was successful in proving that abdominal injuries are the main factors of causing morbidity and mortality in the younger generation. The surgical mode of treatment is the only remedy and the General Surgeon who takes up these kind of cases should be prepared to face the post-operative complications. It is not easy to treat these kind of cases and it is an uphill task for any practising surgeon. This study lays a solid foundation for further such studies to be conducted throughout our country and come up with common statistics. This study definitely helps especially younger surgeons to think and then proceed. The patient relatives also have to be explained about the complications involved about the treatment. This study also helps the general practitioners outside to identify quickly the disease and thus shift the patient to an ideal hand, and thus prevent the further progression of the disease.

REFERENCES

1. Ohene-Yeboah M. Acute surgical admissions for abdominal pain in adults in Kumasi, Ghana. *ANZ J Surg* 2006;76(10):898-903.
2. Leung TT, Dixon E, Gill M, et al. Bowel obstruction following appendectomy: what is the true incidence? *Ann Surg* 2009;250(1):51-53.
3. Margenthaler JA, Longo WE, Virgo KS, et al. Risk factors for adverse outcomes after the surgical treatment of appendicitis in adults. *Ann Surg*. 2003;238(1):59-66.
4. Bitar R, Tarpley J. Intestinal perforation in typhoid fever: a historical and state-of-the-art review. *Rev Infect Dis* 1985;7(2):257-271.
5. Sitaram V, Moses BV, Fenn AS, et al. Typhoid ileal perforations: a retrospective study. *Ann R Coll Surg Engl* 1990;72(6):347-349.
6. Souvik A, Hossein MZ, Amitabha D, et al. Etiology and outcome of acute intestinal obstruction: a review of 367 patients in eastern India. *Saudi J Gastroenterol* 2010;16(4):285-287.
7. Seely SF, Campbell D. Non operative treatment of perforated peptic ulcer: a further report. *Surg Gynecol Obstet* 1956;102(5):435-436.
8. Cameron J, Kieffer R, Baker R, et al. Selective non-operative management of contained intrathoracic esophageal disruptions. *Ann Thorac Surg* 1979;27(5):404-408.
9. Jatzko GR, Lisborg PH, Perti AM, et al. Multivariate comparison of complications after laparoscopic cholecystomy and open cholecystectomy. *Am Surg* 1995;221(4):381-386.
10. Costa OL, Colombo CA, Faintuch J. Postoperative complications in acute abdomen: prospective study of 586 patients. *Rev Hosp Clin Fac Med Sao Paulo* 1990;45(2):61-66.