

Abdominal emergencies performed in general surgery department

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Abstract

Background: Abdominal surgical emergencies constitute a significant portion of a surgeon's clinical experience and often present with diagnostic and treatment challenges. The present study evaluated various abdominal emergencies performed in general surgery department. **Materials & Methods:** 158 patients undergone abdominal emergencies performed in general surgery department of both genders were enrolled. Parameters such as organ system involved, operation performed, initial diagnosis in the emergency room, final diagnosis, and outcome of treatment was recorded. **Results:** Out of 158 patients, males were 90 and females were 68. Surgeries were performed on liver in 12, lung in 5, small bowel in 27, pancreas in 10, stomach in 20, biliary in 15, rectum in 8, hernia in 19, esophagus in 4, spleen in 12, appendix in 17 and ovaries in 9 patients. Postoperative complications were abscess in 24, bleeding in 15, anastomotic leaks in 5 and anastomotic perforations in 2. Mortality seen in patients undergoing surgery for small bowel in 5, pancreas in 2, stomach in 4, biliary in 3, rectum in 1, hernia in 1, spleen in 2 and appendix in 1. **Conclusion:** Common involved organs were liver, lung, small bowel, pancreas, stomach, biliary, rectum, hernia, esophagus, spleen, appendix and ovaries.

Keywords: Abdominal, surgical emergencies, Pancreas.

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Introduction

Abdominal surgical emergencies constitute a significant portion of a surgeon's clinical experience and often present with diagnostic and treatment challenges[1]. The major causes of abdominal emergencies vary from region to region, and even within the same region socioeconomic, cultural, or geographical factors may alter the pattern. Although being one of the most common urgent surgical procedures in India, there is a scarcity of data concerning indications and postoperative mortality rates after emergency laparotomy. Studies continue to show that an emergency status contributes significantly to morbidity and mortality in patients undergoing abdominal surgery[2,3].

Elderly patients with acute abdominal pain present diagnostic challenges as well[4]. Their distinctive physiology leads to atypical presentations, with delayed symptoms, less predictable alterations in vital signs in response to disease, and markedly unreliable physical examinations. The unwary practitioner can often be falsely reassured by the patient's seemingly innocuous appearance and deceptively normal laboratory values[5]. Acute mesenteric ischemia (AMI) is a nonspecific term encompassing disease processes that result in ischemic damage due to decreased blood flow from the mesenteric vascular system. Abdominal aortic aneurysm (AAA) is a disease found almost exclusively in the elderly, and rupture of an AAA carries an extremely high mortality rate[6]. AAA can be a straightforward diagnosis in classic presentations but extraordinarily challenging in atypical cases. Small bowel obstruction (SBO) in the elderly is the second most commonly missed surgical emergency, after appendicitis. As in young patients, hernias and adhesions are the leading cause of SBO in the elderly[7]. The present study evaluated various abdominal emergencies performed in general surgery department.

Materials & Methods

The present study comprised of 158 patients undergone abdominal emergencies performed in general surgery department of both genders. All were enrolled with the written consent.

Data such as name, age, gender etc. was recorded. Parameters such as organ system involved, aetiology, operation performed, initial diagnosis in the emergency room, final diagnosis, and outcome of treatment was recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

Results**Table 1: Distribution of patients**

Total- 158		
Gender	Male	Female
Number	90	68

Table I shows that out of 158 patients, males were 90 and females were 68.

Table 2: Pattern of organ system involvement

Organ system	Number	P value
Liver	12	0.05
Lung	5	
Small bowel	27	
Pancreas	10	
Stomach	20	
Biliary	15	
Rectum	8	
Hernia	19	
Esophagus	4	
Spleen	12	
Appendix	17	
Ovaries	9	

Table II, graph I shows that surgeries performed on organs were liver in 12, lung in 5, small bowel in 27, pancreas in 10, stomach in 20, biliary in 15, rectum in 8, hernia in 19, esophagus in 4, spleen in 12, appendix in 17 and ovaries in 9 patients. The difference was significant ($P < 0.05$).

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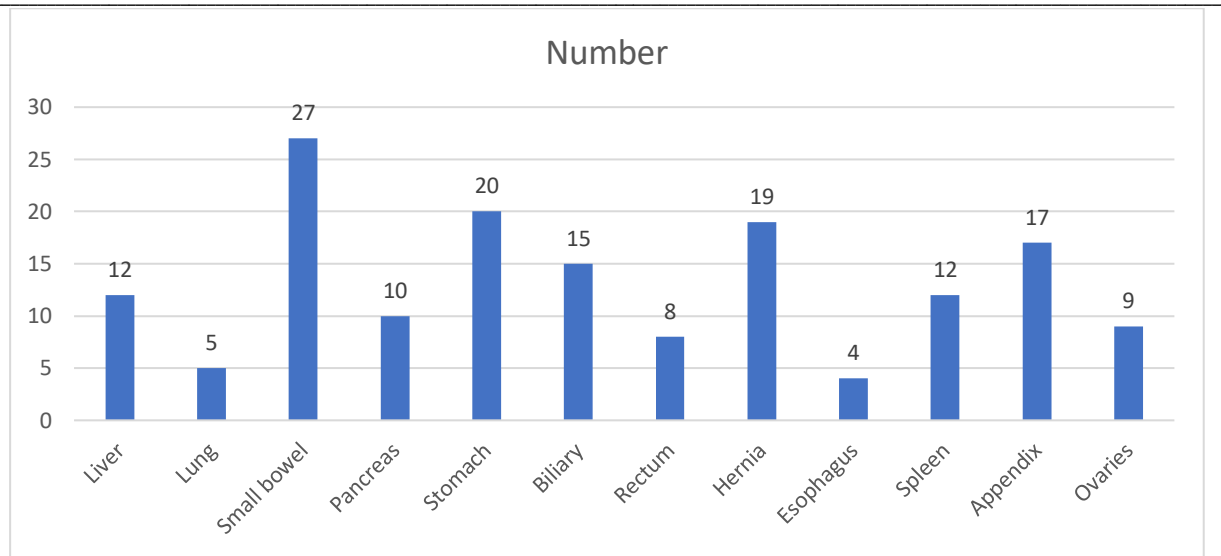


Fig 1: Pattern of organ system involvement

Table 3: Assessment of parameters

Parameters	Variables	Number	P value
Postoperative complications	Abscess	24	0.01
	Bleeding	15	
	Anastomotic leaks	5	
	Anastomotic perforations	2	
Mortality by organ	Small bowel	5	0.04
	Pancreas	2	
	Stomach	4	
	Biliary	3	
	Rectum	1	
	Hernia	1	
	Spleen	2	
	Appendix	1	

Table III, graph II shows that postoperative complications were abscess in 24, bleeding in 15, anastomotic leaks in 5 and anastomotic perforations in 2. Mortality seen in patients undergoing surgery for small bowel in 5, pancreas in 2, stomach in 4, biliary in 3, rectum in 1, hernia in 1, spleen in 2 and appendix in 1. The difference was significant ($P < 0.05$).

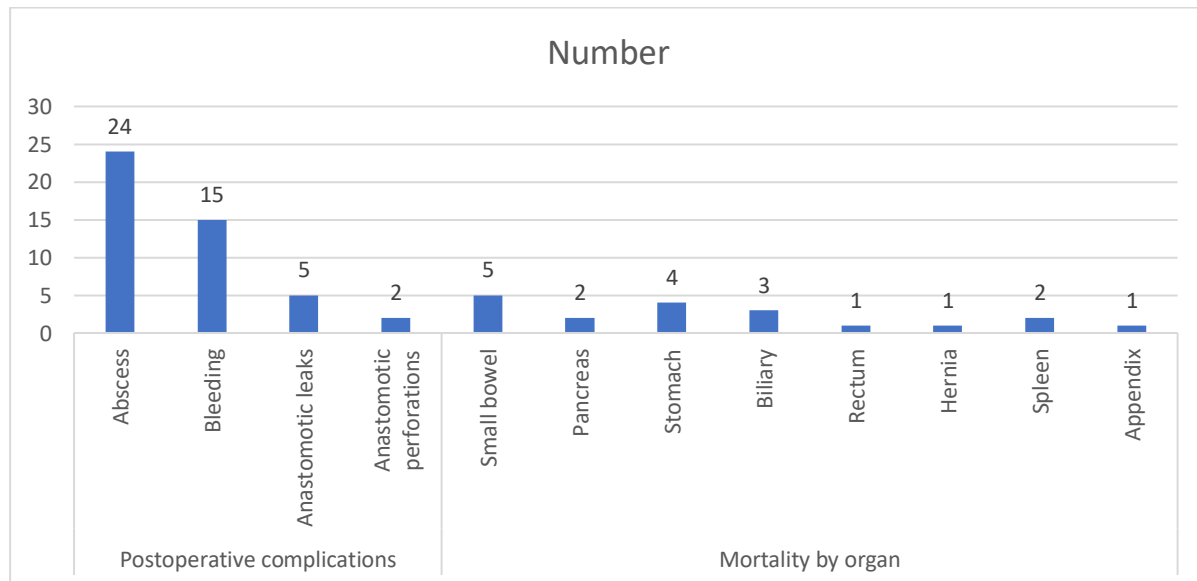


Fig 2: Assessment of parameters

Discussion

In India, perforation peritonitis is the most common emergency in general surgical departments and despite advances in surgical techniques, antimicrobial therapy, and intensive care support, the management of peritonitis continues to be highly demanding, difficult, complex and the causes of perforation are different from those of western countries[8]. However, there is little data on the diagnostic spectrum and results of management of abdominal emergencies from the new specialized gastrointestinal (GI) surgery centers which have now been established in India[9]. Appendicitis is the most common abdominal surgical emergency in the general population and the third most common indication for abdominal surgery in the elderly patient. The incidence of appendicitis is increasing in the elderly population secondary to the increasing life expectancy[10]. Although the overall incidence is lower in the elderly population compared with the general population, the mortality rate is four to eight times higher. Up to half of all deaths from appendicitis occur in elderly patients. The high mortality rate is attributed to delayed and atypical presentations leading to frequent misdiagnosis[11]. The present study evaluated various abdominal emergencies performed in general surgery department. In present study, out of 158 patients, males were 90 and females were 68. Parry et al[12] in their study found that out of 9966 operations performed, 2255 (26%) were emergency procedures. The mean age of the patients was 47 years (range 1–107) and included the following age groups: 0–18 years (n = 105, 4.7%); 19–64 years (n = 1766, 78.3%), and >65 years (n = 384, 17.0%). The majority were males (1609, 71%), and there were 646 females (29%). The most common indications were small bowel emergencies (598, 26.5%), followed by pancreatic (417, 18.5%) and colonic (281, 12.5%) emergencies. Pancreatic operations were the second commonest in the adult and middle-aged group. Colorectal operations were the second commonest in the geriatric age group (>65 years). Emergency operations for other conditions were: postoperative complications following elective operations 171 (7.5%), gastroduodenal bleeding or perforation in 144 (6.3%), and liver surgery in 93 patients (4.1%) patients. In the small bowel emergencies, 223 patients (37.2%) had primary diagnosis of adhesive obstruction, gangrene in 135 patients (22.5%), perforation in 121 patients (20%), and fistula in 56 patients (9.3%). Mesenteric venous thrombosis was found to be the primary cause of small bowel emergencies, either as a primary cause in gangrene or as a secondary cause in perforations and adhesions. The postoperative mortality after emergencies was 12.6% compared to 2% in elective procedures. We found that surgeries performed on organs were liver in 12, lung in 5, small bowel in 27, pancreas in 10, stomach in 20, biliary in 15, rectum in 8, hernia in 19, esophagus in 4, spleen in 12, appendix in 17 and ovaries in 9 patients. Schoots et al[13], in his report on acute mesenteric ischemia which included 3692 patients, found that mesenteric artery occlusion accounted for 71% of cases, only 12% were due to mesenteric venous thrombosis and the remaining 17% were due to nonocclusive mesenteric ischemia. We observed that postoperative complications were absent in 24, bleeding in 15, anastomotic leaks in 5 and anastomotic perforations in 2. Mortality seen in patients undergoing surgery for

small bowel in 5, pancreas in 2, stomach in 4, biliary in 3, rectum in 1, hernia in 1, spleen in 2 and appendix in 1. In a Turkish study conducted 10 years ago, the mortality from emergency operation on small bowel surgery was 66% in the elderly as a result of mesenteric ischemia[14].

Conclusion

Authors found that common involved organs were liver, lung, small bowel, pancreas, stomach, biliary, rectum, hernia, esophagus, spleen, appendix and ovaries.

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