

EPIDEMIOLOGICAL PROFILE OF SURGICAL ACUTE ABDOMEN IN A TERTIARY CARE HOSPITAL OF WESTERN REGION OF NEPAL

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ABSTRACT

Introduction: Acute abdomen is the most common presentation in the department of surgery. It is a great challenge in medical field due to its varied clinical presentation, diagnosis and management. It represents a spectrum of diseases ranging from benign and self-limited to surgical emergencies. **Materials and methods:** It was a prospective observational study conducted at department of surgery in Western Regional Hospital, Pokhara from August 2022 to November 2022. Three hundreds patients who admitted for acute surgical abdomen meeting inclusion criteria were enrolled. Data was collected using a structured Performa. Statistical analysis was done by using SPSS software and Microsoft excel. **Results:** Out of three hundreds patients sixty one percentages were male and thirty nine percentages were female with most common presentation age group of up to 40 years. Most consistent symptom and sign were pain abdomen and abdominal tenderness respectively. Acute appendicitis is the most common type of presentation followed by non specific pain abdomen. Intraoperative findings of inflamed appendix, duodenal perforation, postoperative adhesive obstruction and traumatic liver injury were most common findings. Fifty six percentage of acute abdomen were managed operatively. **Conclusion:** Acute abdomen is a surgical emergency. It is common in male. Acute appendicitis is the most common presentation of surgical acute abdomen. Majority of surgical acute abdomen needs a thorough clinical examination, prompt diagnosis and operative management.

Keyword: Acute Abdomen, acute cholecystitis, appendicitis, hollow viscus perforation, non specific pain abdomen.

1. Acute abdomen is one of the most common emergencies presenting to emergency department[1]. About 5-10% of all emergency visits are due to acute abdominal pain[2]. Acute abdomen is a spectrum of surgical, medical and gynecological conditions ranging from trivial to life threatening conditions, which require hospital admission, investigations and treatment[3]. The possible causes of acute abdomen may range from benign and psychogenic pain to life threatening medical and surgical pathogens. Acute appendicitis, non specific pain abdomen, diverticular diseases, acute cholecystitis, acute pancreatitis, intestinal obstruction, hollow viscous perforation peritonitis, renal colic and blunt trauma abdomen are some of the main causes of surgical abdomen. The most common symptoms are abdominal pain, vomiting, distension, constipation and fever. Commonly elicited signs are tenderness, guarding, lack of bowel sound, abdominal distension and tachycardia. It can present diagnostic challenge for clinicians and primary care doctors[1]. Missed diagnosis, unnecessary investigations and undue interventions are the risks to the patients of acute abdomen. All patients with abdominal pain do not require extensive diagnostic tests. Adequate history and physical evaluation can point towards diagnosis and management in many cases. Patients may present with vague complaints and varying associated symptoms making diagnosis difficult which ranges from benign to life-threatening conditions[4]. The aim of this study is to find out the clinical and epidemiological profile of patients presenting to emergency and/or outpatient department with surgical acute abdomen at a tertiary care hospital.

2. MATERIALS AND METHODS

This was a prospective study conducted at Western Regional Hospital, Pokhara which is a tertiary care hospital of Western region of Nepal, from August 2022 to November 2022 after ethical clearance from institutional review committee (reference no 119/079). Three hundred patients were included in the study. All patients of acute abdominal pain admitted in department of surgery from emergency as well as outpatient department and who gave written consent were included in the study. Pain abdomen in pregnant women, medical and gynecological causes of acute abdominal pain and patient not willing for study were excluded. Detailed history and thorough physical examination and necessary investigations were done to arrive at pre-operative diagnosis. Demographic characteristics of the patients like age, gender, any co-morbidities of patient, associated symptoms and signs, diagnosis and intra operative findings of the patients managed operatively were noted. Statistical analysis was performed by SPSS software and Microsoft excel. Descriptive data was presented in percentage in tables and graph.

3.RESULTS

Out of three hundred patients enrolled in the study, sixty one percent were male and thirty nine percent were female with male: female ratio of 1.56. Sixty percentage of patients presented as acute abdomen were in the age group of ≤ 40 years followed by 30% and 10% in age range of 41-60 years and ≥ 61 years respectively. Among study population of acute abdomen 15 % were smoker, 7% diabetic, 5% hypertensive and only 1% had COPD (table1).

Table-1: Patient baseline characteristics

Characters	Numbers	Percentage (%)
Male	183	61
Female	117	39
Age (years)		
Upto 40	180	60
41-60	90	30
>60	30	10
Comorbidities		
Diabetic	21	7
Hypertension	15	5
COPD	3	1
Smoking	45	15

The most common symptom in our study was pain abdomen, present in 100 percentages of cases followed by vomiting in 70 percentages, distention in 55 percentages, constipation in 45 percentages and least being fever in 43 percentages. In our study 100 percentages of cases presented with tenderness and 73 percentages with Guarding, 61 percentages with tachycardia and 35 percentages with absent bowel sound (table 2).

Table 3: Different etiologies of acute abdomen

Etiology		Numbers	Percent (%)
Non traumatic			
1	Acute appendicitis	120	40
2	Non specific pain abdomen	54	18
3	Hollow viscous perforation	12	4
4	Intestinal obstruction	21	7
5	Acute cholecystitis	36	12
6	Acute pancreatitis	12	4
7	Renal colic	36	12
Traumatic		9	3

In present study most common cause of acute abdomen requiring admission was acute appendicitis (40%) followed by non specific pain abdomen (18%), renal colic (12%), acute cholecystitis (12%), intestinal obstruction (7%), hollow viscous perforation (4%), acute pancreatitis (4%) and trauma (3%). (table 3).

Table 4 : Intra-operative findings of operated cases

Intra operative findings		Number	Percentage (%)
Acute appendicitis		120	40
1	Inflamed	84	28
2	Gangrenous	24	8
3	Perforated	12	4
Hollow viscus perforations		12	4
1	Duodenal perforation	6	2
2	Gastric perforation	1	0.33
3	Ileal/jejunal perforation	5	1.66
Intestinal obstruction		13	4.33
1	Adhesive	5	1.66
2	Obstructed inguinal hernia	4	1.33
3	Volvulus	1	0.33
4	Intussusceptions	2	0.66
5	Cancer	1	0.33
Renal colic - ureteric stone		20	6.66
Liver injury		2	0.66
Splenic injury		1	0.33
Traumatic bowel perforation		1	03.3

Out of operated 40% cases of acute appendicitis 28% were inflamed, 8% gangrenous and 4% perforated. Among 4% of hollow viscus perforation, 2% were duodenal perforation, 1.66% ileal / jejunal perforation and 0.33% gastric perforation. Out of 4.33% of operated cases of intestinal obstruction, 1.66% was due to postoperative adhesion, 1.33% due to obstructed inguinal hernia, 0.66% due to intussusceptions 0.33% due to volvulus and 0.33% due to cancer. Among operated cases of trauma 0.66% was liver injury 0.33% was splenic injury and 0.33% was traumatic bowel perforation (table 4).

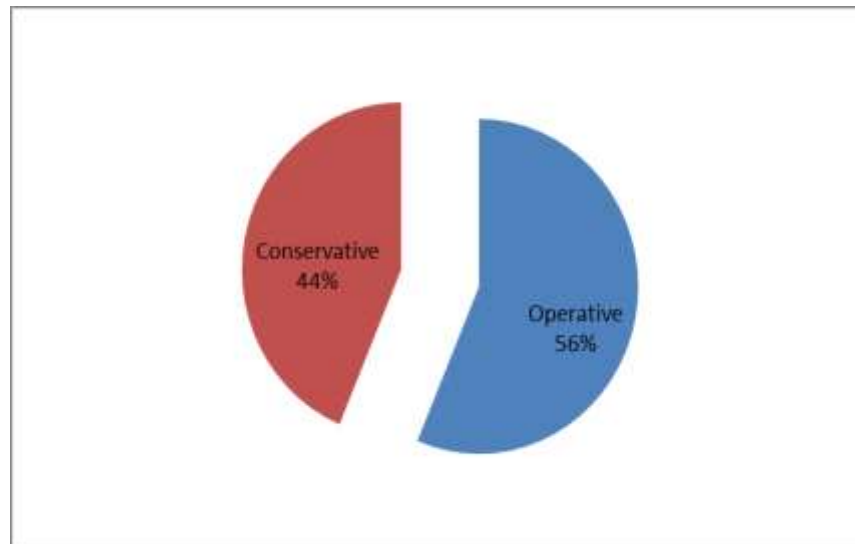


Figure 1: Percentages of operative versus conservative treatment of acute abdomen

Out of 300 cases of surgical acute abdomen, 56 % (169 cases) were managed operatively and 44% (131 cases) were managed conservatively (non specific pain abdomen 54, intestinal obstruction 8, acute cholecystitis 36, acute pancreatitis 12, renal colic 16 and trauma 5).

4.DISCUSSION

Abdominal pain is the presentation of a disease process. Approximately 10% of emergency cases are because of acute abdominal pain[5]. About one third of the patients with abdominal pain need surgical interventions and 35–41% of patients with abdominal pain are admitted[6].

Old age and co morbid conditions have a higher morbidity and mortality even with modern diagnostic technique and good surgical practice[7]. According to Hustey FM et al, diabetes, immunocompromised, smokers and the elderly patients have six to eight-fold increases in the morbidity and mortality compared to younger patients[8]. In our study also 15% of patients were smokers, 7 % were diabetic and 5% were hypertensive.

Most of the patients with acute abdomen had symptoms such as abdominal pain, distension, vomiting, constipation, anorexia and fever[9]. In our study most common symptom of acute abdomen was pain abdomen (100%) followed by vomiting (70%) which was comparable with the study by Jain R, Gupta V et. al. where abdominal pain was in 76.9 % followed by vomiting (57.2%) [10]. In another study by Kesarwani et al, pain abdomen was the main complaint in 100% followed by vomiting in 78%, constipation in 29%, abdominal distension in 26% and fever in 17% of the patients[11]. Kilalo M et al also stated that pain abdomen, vomiting, abdominal distension; constipation and fever were the main clinical presentation of acute abdomen[12].

Abdominal tenderness, guarding, absent bowel sound, tachycardia etc were the main signs of acute abdomen. According to the study by Hagos M et al in 2015 abdominal tenderness was the commonest sign (96%) followed by abdominal guarding (90%) [13] which was in accordance with our study where abdominal tenderness was in 100% , guarding in 73% and tachycardia in 61% of patients.

Non traumatic cases of acute abdomen were common (97%) then traumatic (3%) in our study which is similar to that reported by Ohene-Yeboah M et al. [14] Common causes of non traumatic acute abdomen were acute appendicitis, non specific pain abdomen, urolithiasis, acute cholecystitis, acute pancreatitis, intestinal obstruction, hollow viscus perforation etc. In the study done by Ranjeet RK in department of surgery in Government Medical College and Hospital Latpur, Maharastra observed that among non traumatic causes acute appendicitis was the most common cause of admissions (39%) for patients with acute abdomen.[15] This study was similar to our study where acute appendicitis accounts for 40%, followed by non specific pain abdomen 18%, acute cholecystitis 12%, renal colic 12%. Another study done at West Bengal Medical College of India showed that appendicitis was the most common cause of acute abdomen followed by non specific abdominal pain.[16] Similarly Agboola et al. also observed that the commonest cause of non-traumatic acute abdomen was acute appendicitis (30.3%) followed by

intestinal obstruction (27.9%)[4].

Ranjeet RK et al mentioned that most common intra operative findings in acute appendicitis was inflamed(42%) followed by perforation (10%), in intestinal obstruction adhesion was most common cause followed by obstructed hernia and in hollow viscus perforation duodenal ulcer followed by ileal perforation[15]. In our study among 40% operated cases of appendicitis 28 % were inflamed, 8% gangrenous, 4% perforated, Among 4% cases of hollow viscus perforation 2% were duodenal perforation and among 4.3 % cases of acute intestinal obstruction 1.6% were adhesion followed by obstructed inguinal hernia 1.3%.

In this study 56% of cases of acute abdomen admitted in surgical ward were operated and 44% relieved by medical management. This study was similar to study done by Irvin on 1190 acute surgical admissions where 47% were operated and others were improved by conservative treatment[17].

5.CONCLUSION

Acute abdomen is a surgical emergency which is most common in less than forty years of age group. It is common in male. Acute appendicitis is the most common presentation of surgical acute abdomen. Majority of surgical acute abdomen needs a thorough clinical examination, prompt diagnosis and operative management.

6. REFERENCES

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