



## ***Prevalence of Acute Abdomen in General Surgery Ward of Aliabad Teaching Hospital***

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### Article info

Received 5 May 2020

Revised 7 September 2020

Published 14 September 2020

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### **Abstract**

**Objective:** To determine the prevalence of acute abdomen admission and their frequency according to age and sex in general surgery ward of Aliabad teaching Hospital.

**Patients and method:** This retrospective descriptive study was performed by reviewing medical records (In-patient file) of 299 patients who admitted with diagnosis of acute abdomen between March 21, 2018 and March 21, 2019 in general surgery ward of Aliabad Teaching Hospital.

**Results:** There were 176 males (58,7%) and 123 females (41,3%), male to female ratio being 1,14:1. The mean age was 36,5 ( $\pm 1,09$ ) years and the age range was 15-94 years. Highest number of patients were in 15-24 years of life (n=122, 40,8%). The most frequent cause was found to be acute appendicitis for acute abdomen accounting for 57,5% of total admission. It was followed by acute intestinal obstruction (20,7%) and acute cholecystitis (10,4%). Median age of presentation of acute appendicitis was 23 years. Median age of presentation for acute cholecystitis was 47 years. Male to female ratios in the most common cause like acute appendicitis, intestinal obstruction and acute cholecystitis were 1.5:1, 1.8:1, 0.6:1, respectively.

**Conclusion:** Acute abdomen more common in age group of 15-24 years followed by 25-34 years. Male has higher prevalence of acute abdomen when compared to female with exception of acute cholecystitis. The most common cause of acute abdomen was acute appendicitis.

**Keywords:** Acute abdomen; Abdominal pain; Prevalence; Acute appendicitis

### **Introduction**

The acute abdomen is a clinical situation in which an acute change in the condition of the intra-abdominal organs, commonly attached to inflammation or infection, needs urgent and accurate diagnosis [1]. One of the most repeatedly common symptoms in patients seeking emergency department care and the most common presenting complaint in patients with surgical diseases of the abdomen is acute abdominal pain.

According to the surgical point of view acute abdominal pain is the fundamental symptom of acute abdomen [2]. The causes of acute abdominal pain have a wide range and a detailed history, thorough clinical examination and organized investigations will guide to correct management. Evaluation of such patients and decision making for their management is very important, since some of them will have life threatening conditions that require urgent surgery

which improves outcome; others may need a trial of conservative management that may require intervention if the condition fails to settle. A detailed history, full clinical examination and carefully selected investigations will guide to correct diagnosis and management [3].

Acute abdomen is a common condition encountered in emergency surgical practice [3,4]. In the developed world acute abdomen is most common in the age group 20 to 29 years with male predominance and acute abdomen accounts for 36.4% of surgical emergency [5].

The aim of this study was to identify the prevalence of acute abdomen and their frequency according to the age and sex for one year (March 21, 2018-March 21, 2019), in general surgery ward of Aliabad Teaching Hospital.

#### Method and Patients

This retrospective descriptive study includes all adult cases that were managed as acute abdomen in the general surgery Ward of Aliabad Teaching Hospital of the Kabul University of Medical Sciences, during one year (From March 21, 2018 to March 21, 2019). Those who had traumatic injury of abdomen were excluded. Pain abdomen of urological and gynaecological origin also excluded. There were 176 males (58,7%) and 123 females (41,3%) with diagnosis of acute abdomen who underwent conservative or surgical treatment, and the age range was 15-94 years. A special data collection sheet designed to collect data regarding the diagnosis, age and sex from the profile of patients retrospectively. Data entry was performed by using Microsoft Excel

2016 and all the data were analyzed by SPSS (version 21.0). Descriptive analyses were done regarding the frequency of diseases, distribution of the diseases according to the age and sex.

#### Results

The study is based on data collected from 299 patients who admitted due to acute abdomen between March 21, 2018 and March 21, 2019, including 176 males (58,7%) and 123 females (41,3%), male to female ratio being 1,14:1. Mean ( $\pm$  SE) age was 36,5 ( $\pm$  1,09) years, and the age range was 15-94 years. Highest number of patients were in 15-24 years of life (n=122, 40,8%) followed by the 25-34 years of life (n=51, 17%) (Table 1).

Total of 299 patients with acute abdomen were analyzed. The most frequent cause was found to be acute appendicitis; 57,5% of total admission, followed by acute intestinal obstruction (20,7%) and acute cholecystitis (10,4%). Other causes were acute pancreatitis (4%), peptic ulcer perforation (2%), mesenteric ischemia (1,7%), subdiaphragmatic abscess (1%), appendicular abscess (1,3%), ilium perforation (0,7%), jejunal perforation (0,3%) and peptic ulcer hemorrhage (0,3%) (Table 2).

Median age, age range and male to female ratios in the most common cause of acute abdomen like acute appendicitis, intestinal obstruction and acute cholecystitis were; (23 years, 16-78 years, 1.5:1), (50 years, 17-91 years, 1.8:1), (47 years, 16-94 years, 0.6:1), respectively (Table 3). 235 cases (78.6%) were managed surgically while 64 (21.4%) cases were managed conservatively.

**Table 1:** Age and sex distribution.

Age group	Male, n (% of gender)	Female, n (% of gender)	Total, n (% of total)
15-24 years	65 (36,9%)	57 (46,3%)	122 (40,8%)
25-34 years	39 (22,2%)	12 (9,8%)	51 (17%)
35-44 years	21 (11,9%)	25 (20,3%)	46 (15,4%)
45-54 years	17 (9,7%)	16 (13,1%)	33 (11%)
55-64 years	14 (8%)	8 (6,5%)	22 (7,3%)
65-74 years	9 (5%)	2 (1,6%)	11 (3,7%)
75-84 years	6 (3,4%)	3 (2,4%)	9 (3%)
85-94 years	5 (2,9%)	0 (0%)	5 (1,7%)
Total	176 (100%)	123 (100%)	299 (100%)

**Table 2:** Spectrum of disease in patients with acute abdomen.

Diagnosis	Number	Percentage (%)
Acute appendicitis	172	57.5
Acute intestinal obstruction	62	20.7
Acute cholecystitis	31	10.4

Acute pancreatitis	12	4
Peptic ulcer perforation	6	2
Mesenteric ischemia	5	1.7
Appendicular abscess	4	1.3
Subdiaphragmatic abscess	3	1
Ilium perforation	2	0.7
Jejunal perforation	1	0.3
Peptic ulcer hemorrhage	1	0.3
Total	299	100

**Table 3:** Distribution of diseases according to sex and their median age with age range.

Diagnosis	Male	Female	Range (years)	Median age (years)
Acute appendicitis	103	69	16-78	23
Acute intestinal obstruction	40	22	17-91	50
Acute cholecystitis	12	19	16-94	47
Acute pancreatitis	6	6	35-60	51.5
Peptic ulcer perforation	5	1	15-80	31
Mesenteric ischemia	1	4	45-75	48
Appendicular abscess	3	1	17-50	35
Subdiaphragmatic abscess	2	1	56-85	60
Ilium perforation	2	0	23-75	49
Jejunal perforation	1	0	47	47
Peptic ulcer hemorrhage	1	0	33	33

## Discussion

In this study, frequency of acute abdomen in male was higher than female in most of the acute abdomen cases except for acute cholecystitis. In general, male to female sex ratio was 1,14:1. Male to female ratios in the most leading cause of acute abdomen like acute appendicitis, intestinal obstruction and acute cholecystitis were 1.5:1, 1.8:1 and 0.6:1, respectively. The male dominance is like what was reported in other studies [5-9]. Most patients were in their 2nd and 3rd decades of life, which was a compatibility with previous study done in other countries [6-8,10,11]. In current study we found that acute appendicitis is the most leading cause of acute abdomen accounting for 57.5% of total admission that is like other studies [7,8,11-15]. Second common cause was intestinal obstruction followed by acute cholecystitis. Similar findings were found in a study conducted by Rajesh et al. [16]. A research study was conducted by Malviya A et al where they found similar finding to our study that acute appendicitis to be most common cause of acute abdomen followed by intestinal obstruction but, they have found the hollow organ perforation more common than acute cholecystitis [17]. In contrast, our study suggests acute cholecystitis more common than perforation. Similar findings were also found other

researchers in regard to frequency of acute appendicitis and intestinal obstruction but their study also showed that hollow organ perforation more common cause of acute abdomen than acute cholecystitis and this their finding also was contradicted with our study. May be, socio-economic and diet are the factors for observed difference and further researches need to find out more reasons for this difference in the future.

## Conclusion

Acute abdomen is more common in 2nd and 3rd decades of life with male predominance, exception of acute cholecystitis. The leading cause of acute abdomen in this study was acute appendicitis followed by acute intestinal obstruction and acute cholecystitis.

## Ethical approval

Ethical approval is not required for non- interventional registry-based studies in Afghanistan and no patient or public were involved.

## Funding

No funding was received for this study.

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*This manuscript was peer-reviewed*

*Mode of Review: Single-blinded*

*Academic Editor: Napolitano LM*

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