

**PATTERN AND DISTRIBUTION OF APPENDICECTOMY CASES AT DINAJPUR
MEDICAL COLLEGE HOSPITAL**

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ABSTRACT

Acute appendicitis is the most common cause of acute abdomen surgery with an incidence of 86.2–106 per 100,000 populations. Once thought to be a disease of Western countries, its incidence is on the rise in the developing world. For instance; a recent global review showed that in the 21st century the incidence of acute appendicitis has increased in some of the newly industrialized countries in Asia, South America, and the Middle East. The aim of the study was to determine the pattern & distribution of Appendicectomy operated patients in surgical dept. of DjMCH, Bangladesh for the January-December 2020. The cross-sectional study was conducted purposively selected 148 patients who were selected cases for Appendicitis operation at Department of surgery (Both male & Female Surgery Ward) in DjMCH, Dinajpur. Data were collected face to face by using structured questionnaire. Collected data were analyzed by using descriptive statistics. The mean age of the respondents was 21.14years. Male, Female ratio is 1.114:1. The majority 129 (87.2%) of the patients finding were acutely inflamed appendix and the Routine cases were 116 (78.4%) & Emergency cases were 32 (21.6%). The proportion of Routine and Emergency was 3.6:1. Uneventful recovery was 89.2% (132) and Eventful recovery was only 10.1% (15). Here superficial surgical site infection was mostly 08 (5.4%) and Intra-abdominal collection was 02 (13.3%). Acute appendicitis is the most common cause of acute abdomen. Male are more vulnerable than female. Moreover Laparoscopy Appendicectomy is increasing day by day with a high success rate.

KEYWORDS: Appendicitis, Appendicectomy, Pattern, Distribution.

INTRODUCTION

The term "acute Appendicitis "was Introduced by Ringald H Fitz in 1886, who attributed the condition called typhilitis to the acute inflammation of the vermiform appendix.^[1] The Vermiform Appendix is a tubular diverticulum which arise from the post aeromedical wall of the cecum, about 30mm below the ileocecal valve,^[2] The tip of appendix is variable in position and might lie in a retrocecal, subcecal, retroilealpreilel or pelvic location. Acute appendicitis is the most common cause of acute abdomen surgery with an incidence of 86.2–106 per 100,000 populations.^[3] Once thought to be a disease of Western countries, its incidence is on the rise in the developing world.^[4] For instance; a recent global review showed that in the 21st century the incidence of acute appendicitis has increased in some of the newly industrialized countries in Asia, South America, and the Middle East.^[5]

Laparoscopic appendicectomy has gained acceptance as a diagnostic and treatment method for acute appendicitis with the technological advances in the past two to three

decades. Since then, this procedure has been widely used. In spite of its wide acceptance, there remains a continuing controversy in the literature regarding the most appropriate way of removing the inflamed appendix because of a set of new operative complications relating to laparoscopic surgery.^[6]

Minimal access surgery has been proved to be a useful surgical technique. The application of the recent technology and skills can now provide a better and a cheaper choice of treatment. Acute appendicitis is one of the most common acute surgical abdominal emergencies.^[7] More than 250,000 appendectomies are performed each year in the US; however, the incidence is lower in populations where a high-fiber diet is consumed.^[8] The overall lifetime risk of developing acute appendicitis is 8.6% for males and 6.7% for females; lifetime risk of appendectomy is around 12% in males and 23% in females.^[9]

Globally, the pooled incidence of appendicitis or appendectomy is around 100 per 100,000 person

years. Data suggest a rapid increase in incidence in newly industrialized countries.^[10] acute appendicitis most commonly occurs between the ages of 10 and 30, with the highest incidence in children and adolescence.^[11] there is a slight male to female predominance (1.3:1).

According to the latest WHO data published in 2018, Appendicitis Deaths in Bangladesh reached 1,194 or 0.15% of total deaths. Death rate is 0.91/100,000 and world ranking is-68. Appendicitis is a global issue and burden for our country. So, I do the study to know the present situation and find out better solution in management. The aim of this study was to determine the pattern & distribution of Appendicectomy operated patients in surgical dept. of DjMCH for the January-December 2020.

MATERIALS AND METHODS

This study was a cross sectional study at Department of Surgery (Male Surgery ward and Female surgery ward) & Surgery Operation Theatre of Dinajpur Medical College Hospital, Dinajpur. in Bangladesh from January-December 2020. Total 148 patients, who were selected cases for Appendicitis operation at Department of surgery (Both male & Female Surgery Ward) in DjMCH, Dinajpur. Purposive type of non-probability sampling technique was followed. Data were collected by face to face interview using semi structured questionnaire.

RESULT

The total number of appendicectomy operations performed within the stipulated period was 148. Male were 78(52.7%) & Female were 70(47.3%). Male Female ratio is 1.114:1.

Table 1: Socio-demographic characteristics of the respondents (n=148)

Age in complete year	Frequency (f)	Percentage (%)
11-20 years	36	24.3%
21-30 years	44	29.7%
31-40 years	34	23%
41-50 years	18	12.2%
51-60 years	10	6.8%
61-70 years	05	3.4%
71-80 years	01	0.68%
Gender		
Male	78	52.7%
Female	70	47.3
Level of Education		
Class 08	32	21.6%
SSC	31	20.9%
HSC	25	16.9%
Graduation	42	28.4%
Post-Graduation	18	12.2%
Monthly income		
<10,000	28	18.9%
10,000 - 20,000	48	33.8%
20,000 – 30,000	45	29.7%
> 30,000	27	17.6%
Occupation		
Day Laborer	12	8.8%
Housewife	41	27.7%
Service Holder	39	26.4%
Medical Staff	19	12.2%
Student	27	18.2%
Farmer	10	6.8%
Total	148	100%

Table 1: show the demographics information of the respondents. The lower age was 13 and higher age is 74 years. The more vulnerable age group is 21-30 years (29.7%). The Mean age is 21.14years. Male are majority in number (52.7%). Male, Female ratio is 1.114:1. From the total respondents, 28.4% had graduation and 21.6% had Class o8 respectively, the total monthly income were majority (33.8%) in the range of 10,000-20000 and

majority of respondents were found Housewife (27.7%), Service Holder (26.4%).

Table 2: Distribution of respondents by clinical factors (n=148)

Findings	Frequency (f)	Percentage (%)
Acutely inflamed Appendix	129	87.2%
Gangrenous/Perforated Appendix	12	8.1%
Appendix Mass	05	3.4%
Normal Appendix	02	1.35%
Type of Diagnosis		
Tenderness in right lower quadrant	140	93.3%
Rebound Tenderness	109	72.7%
Migration of pain	56	37.3%
Anorexia	45	30%
Nausea	97	64.7%
Vomiting	112	74.7%
Elevated Temperature	57	38%
Types of Operation		
Routine cases	116	78.4%
Emergency cases	32	21.6%
Operation category		
Laparotomy operation	129	87.2%
Laparoscopy operation	19	12.8%
Post-operative staying		
1-3 days	113	75.7%
4-6 days	22	14.9%
7-10 days	8	5.4%
> 10 days	6	4%
Total	148	100%

Table 02 shows the clinical factors of the respondents. Here, majority of the patients finding were acutely inflamed appendix 129 (87.2%), normal appendix found in 02 (1.35%) patients and Gangrenous/ Perforated appendix found in 12 (8.1%) respondents. Mostly patient have Pain/Tenderness at right lower quadrant in 140 (93.3%), Vomiting in 112 (74.7%) and Rebound tenderness is found 109 (72.7%) respondents and the

Routine cases were 116 (78.4%) & Emergency cases were 32 (21.6%). The proportion of Routine and Emergency was 3.6:1 and from them Laparotomy operation were 129 (87.2%) on the other hand Laparoscopy operation were 19 (12.8%). The ratio is Laparotomy: Laparoscopy 6.8:1 and 75.7% respondents discharge within 03 days after operation.

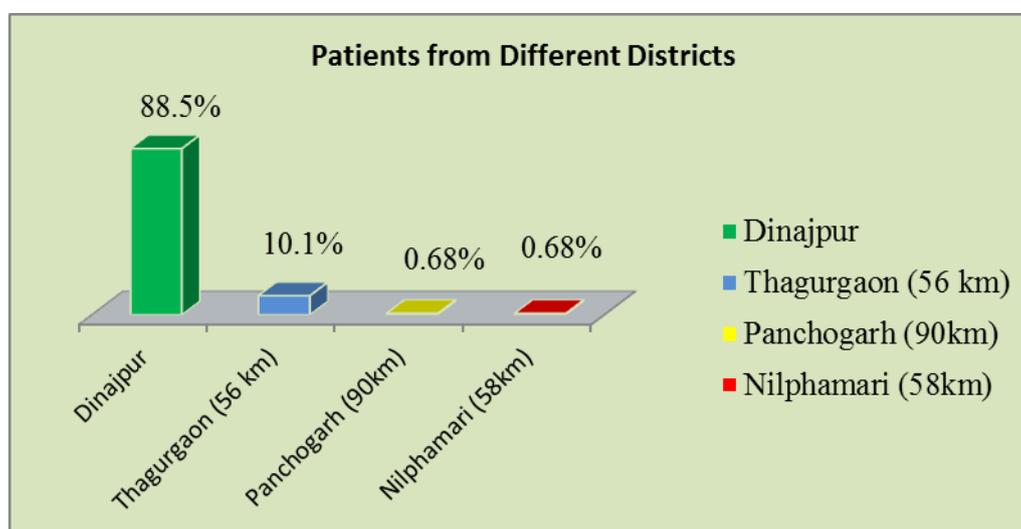


Figure 01: Distribution of respondents from different Districts (n=148)

Figure 1 shows the respondents from different districts with distance. Majorities are from Dinajpur 88.5% and from Thagurgaon is 10.1%.

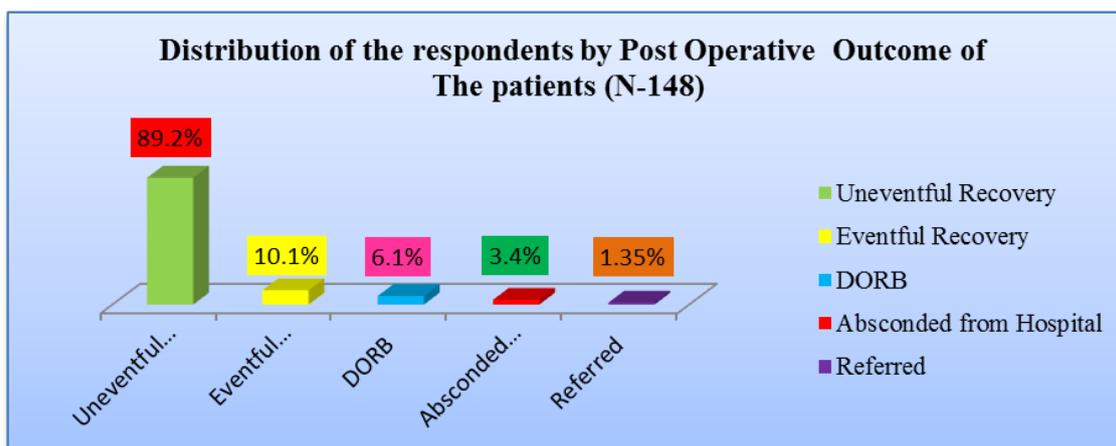


Figure 02: Distribution of the respondents by Post-Operative outcome (n=148)

Figure 2 shows the outcome of the patients. Whereas, Uneventful recovery were 89.2% (132) and Eventful recovery were only 10.1% (15). Only 02 (1.35%) are

referred to Rangpur medical college hospital for better management of perforated appendix case.

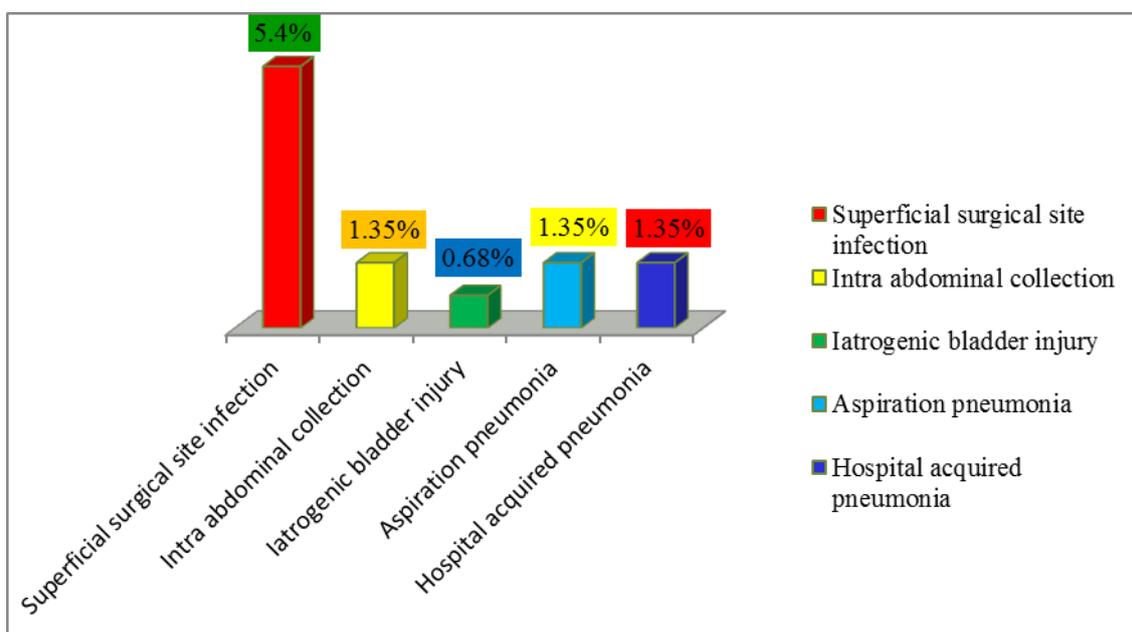


Figure 3: Distribution of respondents by Eventful Condition (n=15)

Figure 3 shows the post-operative infection that recovers after certain duration. Here superficial surgical site infection was mostly 08 (5.4%) and Intra-abdominal collection was 02 (13.3%).

DISCUSSION

An appendectomy is the surgical removal of an appendix, generally performed in emergency conditions when the patient is suffering from acute appendicitis. In recent times, laparoscopic appendectomy has been ahead in the increasing consensus over the traditional open surgery. Appendectomy for acute appendicitis is the most commonly executed abdominal procedure. In western world, acute appendicitis accounts for about 40 percent of all surgical emergencies though the recent systematic review of population based studies reported the decreasing trend in appendicitis incidence.^[12]

In our study, the patients' age ranged from 13 years to 74 years with mean age 31.5 ± 13.9 with maximum incidence 89.12% below 50 years. This result is nearly consistent with several studies that report 95% appendicitis below 50 years age.^[13] The exact etiology is not acknowledged, but the change in life styles, air pollution, smoking, reduced fibers intake, as well as the over consumption of sweet and sugary diet is speculated by some authors to the cause of appendicitis.^[14] Moreover, the etiology of appendicitis is apparent to be multifactorial.

A diagnosis of appendicitis was most likely in a patient with the presence of tenderness in Right lower quadrant in 140 (93.3%), rebound tenderness in 109 (72.7%), vomiting in 112 (74.7%) and high temperature in 57 (38%). Sometimes, blockage of the appendix is due to a build-up of thick mucus within it. Owing to infection, the

lymphatic tissue present in the appendix might enlarge and obstruct its lumen. This attracts the normal flora found within the appendix to invade its wall. The body responds to this process by attacking the bacteria.

Among 148 appendectomies, the perforations were found 8.1% lower than expected. Andersson et al showed perforation rate of 13% in male and 18% in female in the study.^[15] However, the study in Nepal by Makaju et al.^[16] showed the lowest rate with 2.12% that is close to our result. The exact cause is not well-known, however many factors might be involved. The circumstances and geography could be the indirect factors responsible for perforation of appendicitis. The other direct factors elaborated could be the early use of antibiotics at the local level by the local health worker. However, this is the postulation based knowledge while working in this region that local health worker was often reluctant to give antibiotics in any kind of disease. Using antibiotics improperly might increase resistance widely however its use instinctively in rural area, where health service in time is inaccessible, is debatable.

CONCLUSIONS

Acute appendicitis is the most common cause of acute abdomen. Male are more vulnerable than female. The risk age is 21-30 years. There is more chronic case than acute. But the outcome is very satisfactory and there is no death record at all. Moreover Laparoscopy Appendectomy is increasing day by day with a high success rate.

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