E-ISSN:2454-9894 P-ISSN: 2454-9886

International Archives of
BioMedical and Clinical Research
(An Official Publication of "Ibn Sina Academy of Medieval Medicine & Sciences")
WWW.IABCR.ORG

Section General Surgery

Original Article

Assessment of Incidence of Appendicitis Among Known Population: A Hospital Based Prospective Study

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ABSTRACT

Background: *Appendicitis is the commonly observed acute abdominal state and the most common reason for surgeries of abdomen. There has been a drastic reduction in morbidity and mortality related with appendicitis in 20th century because of better obtainability of healthcare amenities. The present study was conducted with the aim to assess the incidence of appendicitis amongst known population.*
Methods: *This hospital based prospective study was performed in Department of Surgery, R.B.M. Hospital, Bharatpur, Rajasthan, India. Detailed history of all the subjects were obtained and complete blood analysis of all the subjects were performed. Radiological diagnosis was taken for final confirmation of appendicitis by abdominal ultrasound. All the data was tabulated and analysed by SPSS software. Percentage of the data was calculated.*
Results: *In this study a total 2600 subjects were examined out of which 200 subjects had appendicitis. The incidence being 7.6%. There were 130 males and 70 females. The mean age group of females 33.18+/-9.38 years and mean age of males was 42.17+/-3.14 years. There were 53% cases of pyrexia. 42% subjects showed rebound tenderness. There were 17% cases of guarding.*
Conclusions*: Acute appendicitis is a usually occurring clinical condition that needs immediate management. The incidence of appendicitis in our study was 7.6%.*

Keywords: *Antibiotics, Appendicular, complications ,laparoscopy*

Available Online: 24th December 2019

Received: 26.07.19
Accepted: 22.08.19

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INTRODUCTION

Appendicitis is the commonly observed acute abdominal state and the most common reason for surgeries of abdomen.[1,2] Every year 250,000 appendectomies are performed in United States. Everyone in 15 people have the tendency of developing appendicitis during his lifetime.[3] It has been seen that 7-10% of the subjects develops appendicitis primarily during the second and third decades of life.[4] Open appendectomy is normally performed for the cases of appendicitis but present days laparoscopic procedure has gained widespread popularity.[5] The initial laparoscopic appendectomy was performed by Semm in 1982.[2] There has been a drastic reduction in morbidity and mortality related with appendicitis in 20th century because of better obtainability of healthcare amenities.[6] With the discovery of better diagnostic aids and management strategies, the mortality related with appendicitis has been decreased to lesser than 1%.[7] Different advantages shown by laparoscopic appendectomy are lesser pain, decreased incidence of post-operative infection and reduced duration of stay at hospital.[8,9] Few studies have illustrated that laparoscopic technique offer a good clinical results[10,11] whereas others illustrated that there are no significant clinical advantages.[12] The present study was conducted with the aim to assess the incidence of appendicitis amongst known population.

Access this article online	
Website: www.iabcr.org	Quick Response code
DOI: 10.21276/iabcr.2019.5.4.04	

How to cite this article: Gupta A. Assessment of Incidence of Appendicitis Among Known Population: A Hospital Based Prospective Study. Int Arch BioMed Clin Res. 2019;5(4):GS1-GS3.

Source of Support: Nil, **Conflict of Interest:** None

METHODS

This hospital based prospective study was performed in Department of Surgery, R.B.M. Hospital, Bharatpur, Rajasthan, India. All the patients reporting to the department were screened of appendicitis. The study was approved by the Institute's ethical board and all the subjects were informed about the study and a written consent was obtained from them in their vernacular language. Detailed history of all the subjects were obtained and complete blood analysis of all the subjects were performed. Radiological diagnosis was taken for final confirmation of appendicitis by abdominal ultrasound. Subjects were kept fasting 6 hours before the surgical procedure and iv antibiotics were administered. Subjects with complications of appendicitis were noted and managed as per the protocol. Initially, all the patients underwent conservative management using triple antibiotic regimen. Analgesics were administered for pain relief. Vitals of all the subjects were closely monitored and were reassessed for any tenderness. Subjects with uncontrolled systemic diseases were not included in the study. All the data was tabulated and analyzed by SPSS software. Percentage of the data was calculated.

RESULTS

In this study a total 2600 subjects were examined out of which 200 subjects had appendicitis. The incidence being 7.6%. There were 130 males and 70 females. The mean age group of females 33.18+/-9.38 years and mean age of males was 42.17+/-3.14 years.

Table 1 shows the signs of patients with appendicitis. General illness was observed in 92% cases and RIF tenderness was seen in 94% cases. There were 53% cases of pyrexia. 42% subjects showed rebound tenderness. There were 17% cases of guarding. Generalised tenderness and obturator's sign was seen in 2% cases respectively. There were 5% cases with Psoas's sign positive.

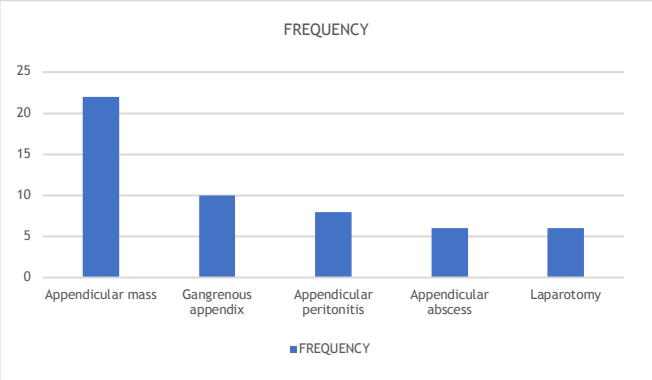
Table 2 and graph 1 denotes the complications encountered in appendicitis. Appendicular mass was seen in 11% cases (n=22). The next common complication was Gangrenous appendix which was seen in 10 cases (5%). Appendicular abscess was seen in 6 cases (3%) and appendicular peritonitis was seen in 8 cases (4%). There were 6 cases of laparotomy (3%).

Table 1: Signs of patients with appendicitis

Signs	Frequency	percentage
General look (ill)	184	92
Pyrexia	106	53
RIF tenderness	188	94
Rebound tenderness	84	42
Guarding	34	17
Generalized tenderness	4	2
Rovsing's sign	8	4
Psoas's sign	10	5
Obturator sign	4	2
Suprapupic tenderness	2	1

Table 2: Complications of acute appendicitis

COMPLICATIONS	FREQUENCY	PERCENTAGE
Appendicular mass	22	11
Gangrenous appendix	10	5
Appendicular peritonitis	8	4
Appendicular abscess	6	3
Laparotomy	6	3



Graph 1: Complications of acute appendicitis

DISCUSSION

Appendix is a tube that starts from the posteriomedial area of caecum, 2cm lower to ileum. It was first illustrated by Berengario Da Capri.[13] Later, Mc Burney gave the point of maximum tenderness in the cases acute appendicitis and this was known as Mc Burney point. Acute appendicitis is basically a clinical situation that mostly requires surgical management immediately after acute attack. If there is any delay, then the condition gets complicated and there is an increase in morbidity.[14] There have been around 20 years meanwhile first laparoscopic appendectomy was conducted but till present open appendectomy is regarded as gold standard for managing appendicitis. Appendicitis diagnosis is made clinically using Alvarado score and Ultrasound.[13] In cases of doubt CT scan is performed. In a recent study the reviewed open and laparoscopic appendectomy found that both the procedures are efficient and a safe for management of appendicitis.[15] According to our present study, the incidence being 7.6%. There were 130 males and 70 females. The mean age group of females 33.18+/-9.38 years and mean age of males was 42.17+/-3.14 years. General illness was observed in 92% cases and RIF tenderness was seen in 94% cases. There were 53% cases of pyrexia. 42% subjects showed rebound tenderness. There were 17% cases of guarding. Generalised tenderness and obturator's sign was seen in 2% cases respectively. There were 5% cases with Psoas's sign positive. Appendicular mass was seen in 11% cases (n=22). The next common complication was Gangrenous appendix which was seen in 10 cases (5%). Appendicular abscess was seen in 6 cases (3%) and appendicular peritonitis was seen in 8 cases (4%). There were 6 cases of laparotomy (3%). As per a study performed by Pal Naresh et al[16], at Rohtak, there were 26.18% subjects of appendicitis who had complications and 87.96% of patients needed immediate surgical intervention. According to a study by Amit Kumar et al[17], acute appendicitis was a frequent presentation and there were approximately 47.83%

subjects that demonstrated complications. Surgical management was done in around 86.96% cases. The frequency of wound infection varied between 5 to 20%.[18] According to a study by Amit Kumar et al[17], wound infection was observed in 8.7% cases.

CONCLUSION

Acute appendicitis is a usually occurring clinical condition that needs immediate management. The incidence of appendicitis in our study was 7.6%. Nearly all the cases were operated at the hospital and the clinical outcome was satisfactory amongst all.

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