

Causes of Perforated Appendicitis and its Prevalence in Patients Whom Undergone Appendectomy

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ABSTRACT

Aim: To determine the causes affecting perforated appendicitis and its prevalence among patients whom undergone appendectomy treatment.

Methods: This observational cross sectional study was conducted at Department of Surgery, Shahida Islam Medical Complex, Lodhran and BVH, Bahawalpur from 1st January 2017 to 31st December 2017. In this research, 170 patients of both genders whom had undergone appendectomy were included. Patients were aged between 10 to 50 years. After taking informed consent from patients, detailed history was noted. Causes affecting perforated appendicitis and its prevalence were assessed, symptoms were also noted. Patients who were not willing and whom had other abdominal problems were excluded from this study.

Results: Out of 170 patients, 113 (66.47%) patients were males while rest 57 (33.53%) patients were females. 30 (17.65%) patients were aged between 10 to 20 years, 65 (38.24%) patients had ages of 21 to 30 years, 50 (29.41%) patients were aged between 31 to 40 years and 25 (14.71%) patients were ages >40 years. 35(20.58%) patients had found perforated appendicitis, 90 (52.94%) patients had inflamed appendicitis, 25 (14.71%) had gangrenous, 12 (7.06%) patients had normal appendix and 8 (4.71%) patients had found chronic appendicitis. Symptoms observed in patients such as pain in right iliac fossa, tenderness, elevated temperature, vomiting and nausea as 90, 20, 35, 25 patients respectively. Causes of perforated appendicitis were observed as misdiagnosed from Doctor, patient afraid of surgical treatment and delay in reaching hospital respectively.

Conclusion: It is concluded that the prevalence of perforated appendicitis was high in our system due to misdiagnosed by clinically observation, delay in reaching hospital and afraid of surgical treatment by the patient Expertise should have to diagnosed attentively for decreasing the rate of perforated appendicitis, Also people must have to aware of this serious disease.

Keywords: Perforated appendicitis, surgical treatment, Appendectomies, Causes, Symptoms

INTRODUCTION

Appendicitis is one of the most common diseases found in all over the world. Appendectomy is the most frequently performing surgery in hospitals settings and approximately 10% of all surgical operation¹. Appendicitis is commonly found in people having age range between 10 to 30 years and mostly observed in male population.² According to the different researches regarding appendicitis, 7 to 8% population have appendicitis disorder,³ and mostly patients are of middle age and young adult.⁴ Approx six percent of patients have found acute appendicitis during their life time⁵⁻⁷.

In USA, 0.3 million patients suffer from appendicitis and treated surgically are resulted yearly and mostly patients found adult and of middle ages.⁸ Worldwide, the rate of appendicitis is high in people having ages 16 to 22 years and estimated 233 out of 0.1 million people suffering with appendicitis. Mild type appendicitis may be treated with medication but in modest and severe incidences it may acquire surgical extraction of inflamed appendix by laparoscopy or open surgery. Diagnosing of acute appendicitis in clinical examination is mostly with typical methods.^{9,10} The diagnosis is mainly based on clinical

examination and laboratory findings. Therefore diagnostic inaccuracy may be caused and resulted 20% of prevalence of perforation and 2 to 30% rate of negative appendectomy^{11,12}. Gangrene, appendicular mass, perforation, peritonitis and abscess are the major complications and happen if appendicitis is not treated timely and proper manner. The life time risk for development of acute appendicitis in males and females is 8.6% and 6.7%¹². Appendicitis is commonly lead to perforation and other severe complications due to misdiagnosed by doctors or delay in reaching hospital of the patient. Perforated appendicitis rate is high and it may lead to increase rate of mortality and morbidity as compared to non perforated appendicitis.

PATIENTS AND METHODS

This observational cross sectional study was conducted at Department of Surgery, Shahida Islam Medical Complex, Lodhran and BVH Bahawalpur from 1st January 2017 to 31st December 2017. In this study, 170 patients of both genders whom had undergone appendectomy were included. Patients were aged between 10 to 50 years. After taking informed consent from patients, detailed history of the patient was noted. Histopathology findings of all patients were noted regarding appendicitis. Causes affected perforated appendicitis and its prevalence were examined, symptoms were also noted. Patient undergone laparotomy and who were not willing and whom had other abdominal problems were excluded from this study. All statistical data was analyzed by SPSS 17.

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RESULTS

Out of 170 patients, 113 (66.47%) patients were males while rest 57 (33.53%) patients were females. 30 (17.65%) patients were aged between 10 to 20 years, 65 (38.24%) patients had ages of 21 to 30 years, 50 (29.41%) patients were aged between 31 to 40 years and 25 (14.71%) patients were ages >40 years. By operating findings, 35 (20.58%) patients had found perforated appendicitis, 90 (52.94%) patients had inflamed appendicitis, 25 (14.71%) had gangrenous, 12 (7.06%) patients had normal appendix and 8 (4.71%) patients had found chronic appendicitis. Symptoms observed in patients such as pain in right iliac fossa in 150 (88.23%) patient, tenderness had found in 140 (82.35%) patients, elevated temperature had found in 35 (20.59%) patients and vomiting and nausea in 25 (14.71%) patients (Tables 1-4).

Causes of perforated appendicitis were observed such as inaccurate diagnosing, afraid of surgical treatment and delay in reaching hospital of the patient as 30 (54.55%), 15 (27.27%) and 10 (18.18%) respectively. P-Value <0.05 was considered significantly. We observed the major cause of perforation was inaccurate diagnose by clinically examination (Table 5).

Table 1: Gender-wise distribution of patients

Gender	n	%age
Male	113	66.47
Female	57	33.53

Table 2: Age-wise distribution of patients

Age (years)	n	%age
10 – 20	30	17.65
21 – 30	65	38.24
31 – 40	50	29.41
> 40	25	14.71

Table 3: Symptoms prevalence observed in patients

Symptoms	n	%age
Pain right iliac fossa	150	88.23
Tenderness	140	82.35
Elevated temperature	35	20.59
Vomiting and nausea	25	14.71

Table 4: Operating findings of patients

Finding	n	%age
Perforation appendix	35	20.58
Inflamed Appendix	90	52.94
Gangrenous	25	14.71
Normal appendicitis	12	7.06
chronic appendicitis	8	4.71

Table 5: Causes observed for perforation

Causes	n	%age
Inaccurate diagnose	30	54.55
Afraid of operation	15	27.27
Delay in reaching hospital	10	18.18

DISCUSSION

Appendicitis is one of the most frequently disease found in all over the world. Current study was conducted to determine the prevalence of perforated appendicitis and causes lead to perforation. In this study, 170 patients were included in which 66.47% patients were males while rest

33.53% patients were females, these results shows the similarity to the study conducted by Soomro et al.¹³ We found 30 (17.65%) patients were aged between 10 to 20 years, 65 (38.24%) patients had ages of 21 to 30 years, 50 (29.41%) patients were aged between 31 to 40 years and 25(14.71%) patients were ages >40 years these results shows similarity to the other studies conducted regarding appendicitis research¹⁴in which rate of appendicitis was high in patients having ages between >20 to 40 years and in our study mostly patients were ages between 21 to 40 years.

In this study, the operative findings of appendicitis are 35(20.58%) patients had found perforated appendicitis, 90(52.94%) patients had inflamed appendicitis, 25 (14.71%) had gangrenous, 12(7.06%) patients had normal appendix and 8(4.71%) patients had found chronic appendicitis. Main reason for perforation of appendicitis is obstruction in the lumen and the leading reason for luminal obstruction is fecolith and it causes 90% of perforated appendicitis. We observed that delay in reaching hospital is one of the major causes which lead to perforation appendix as more time will pass, the risk of complications tends to be high. In different multiple studies shows that the rate of these diagnostic findings varies between 68 to 100%¹⁵.

In our study the main cause leading of perforation was inaccurate diagnosing by doctors as 30 (54.55%) patients was misdiagnosed at first attempts, 15 patients was afraid of operation and 10 patients found delay in reaching hospital. A study conducted by Asad et al¹⁶ shows that 23.08% of patients was diagnosed inaccurately by the Doctors and sent them to OPD. It is most important that the diagnosing of this serious disease should be accurate and on time, and if misdiagnosed or not properly diagnosing, can lead to perforation and may increase the mortality and morbidity rate¹⁷⁻¹⁹.

In this study, we observed symptoms such as pain in right iliac fossa in 150 (88.23%) patients, tenderness had found in 140(82.35%) patients, elevated temperature had found in 35 (20.59%) patients and vomiting and nausea in 25(14.71%) patients. A research conducted by Salahuddin et al²⁰ shows the similarity to our study. Another study resulted that non medical persons are responsible for delay in diagnosing appendicitis and this tends to increase the perforation appendicitis²¹. Multiple studies shows that delay in surgical treatment of appendicitis tends to increase complications²².

In our study rate of perforation is high that is 20% as compared to study conducted by Frederick Thurston that is 16%²³. It is due to misdiagnosed by the doctor, delay in reaching hospital and afraid of surgical treatment.²³ We should have to do more work to provide better treatment and to decrease the mortality and morbidity.

CONCLUSION

It is concluded that the prevalence of perforated appendicitis was high in our system due to misdiagnosed by clinically observation, delay in reaching hospital and afraid of surgical treatment. Expertise should have to diagnosed attentively for decreasing the rate of perforated appendicitis, Also people must have to aware of this malignant disease.

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