ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 12 | December - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

COMPARISON OF ACUTE APPENDICITIS BEFORE AND WITHIN LOCKDOWN PERIOD IN COVID-19 ERA. A RETROSPECTIVE STUDY

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ABSTRACT

The pandemic COVID-19 has influenced the healthcare system worldwide and also resulted in loss of human life worldwide and also challenged the each aspects of the life, like work, food system etc. Acute appendicitis is commonest surgical emergency and the clinical symptoms are present in estimated1/3rd of patients with mostly in the advanced age presenting atypically with the life time risk of 7-8%. Poor diagnosis / false diagnosis in these age groups is common and which can result in the further complications of acute appendicitis. To prevent such complications and the relative morbidity early diagnosis and treatment of acute appendicitis is mandatory. The aim of the study was to compare the acute appendicitis before and within lockdown period in covid-19 era. Study was conducted for a period of one year from November 2019 to October 2020. The result findings show that leukocytosis more than 10000/mm^3 was seen in 34 patients in group A while 46 patients showed leukocytosis in group B which was statistically significant. (P = 0.002). Delayed presentation > 72 hours was seen in 4 patients in group A while in 10 patients in group B. The conservative treatment modalities was used in 9 in group A & 6 in group B, open surgery was performed in 51 patients in group A while in 49 patients in group B and laparoscopic surgery in 5 patients in group A only. Post-operative hospital stay duration tended to increase in patients operated within lockdown period. (3 days Group A Vs 5 days Group B, P value = 0.0001). Total patients who presented with perforation were 20 in number which included 12 patients in COVID era and 8 were before lockdown. Perforation rate increased by 8 %. There was no mortality.

KEYWORDS

Acute Appendicitis, COVID- 19, Lockdown.

INTRODUCTION

The pandemic COVID-19 has influenced the healthcare system worldwide and also resulted in loss of human life worldwide and also challenged the each aspects of the life, like work, food system etc. The restrictions were put on every social gatherings and movements to control this spread of COVID-19 virus. So, that there was reduction in non-emergency and some emergency conditions. Some research findings suggested that COVID-19 virus can infect the digestive system and presents with gastrointestinal symptoms such as lack of appetite, diarrhea, vomiting, and abdominal pain but there is no research finding which can describe that a patient with COVID-19 presented as acute appendicitis. [1]Acute appendicitis is commonest surgical emergency and the clinical symptoms are present in estimated1/3rd of patients with mostly in the advanced age presenting atypically with the life time risk of 7-8%. Poor diagnosis / false diagnosis in these age groups is common and which can result in the further complications of acute appendicitis. To prevent such complications and the relative morbidity early diagnosis and treatment of acute appendicitis is mandatory. As well as the permanent treatment for acute appendicitis was surgery but as now the trend has been changed, and the recent guidelines said that conservative treatment with antibiotic for the management of uncomplicated appendicitis. Jerusalem guidelines 2020 recommendation includes discussing Non-Operative Management (NOM) with antibiotics as a safe alternative to surgery in selected patients with uncomplicated AA and absence of appendicolith, advising of the possibility of failure and misdiagnosing complicated appendicitis [2][3]

AIM OF THE STUDY

The aim of the study was to compare the demographic, clinicopathologic characteristics and surgical aspects of acute appendicitis before and within lockdown period in covid-19 era, in tertiary care hospital of Jammu.

MATERIAL AND METHODS

The retrospective study was conducted in the department of surgery, Government Medical College Jammu, for a period of one year from November 2019 to October 2020. The informed consent was taken by the researcher from the selected subjects for the study. After obtaining the informed consent the nature of the study was explained to the subjects. Total 65 Subjects in group A and 55 subjects in Group B reporting to the emergency department were selected on the basis of inclusion and exclusion criteria presenting the symptoms of acute appendicitis and have diagnosed with acute appendicitis. All the patients - Group A (65 subjects) admitted with the diagnosis of acute appendicitis before lockdown and Group B (55 subjects) during the lockdown period were included in the study. Data was collected with a self-structured tool which was divided into two parts, Part – A, consist of demographic variables age, gender and Part-B, consist the clinicopathological variables for acute appendicitis. The data was analyzed and structured to arrange, tabulate, and evaluate the information using descriptive and inferential statistics in accordance with the study's objectives, hypotheses, and expert viewpoint. The study's data was analyzed using descriptive and inferential statistics.

Inclusion Criteria:

1. Patient reported to the emergency department and diagnosed with acute appendicitis.

Exclusion Criteria:

1. Patient diagnosed with acute appendicitis along with the other co-morbid illnesses.
2. Patient who did not given the consent for the study.

RESULTS:

There were total 65 patients in group A and 55 patients in group B. Leukocytosis more than 10000/mm^3 was seen in 34 patients in group A while 46 patients showed leukocytosis in group B which was statistically significant. (P = 0.002). Delayed presentation > 72 hours was seen in 4 patients in group A while in 10 patients in group B. The conservative treatment modalities was used in 9 in group A & 6 in group B, open surgery was performed in 51 patients in group A while in 49 patients in group B and laparoscopic surgery in 5 patients in group A only. Post-operative hospital stay duration tended to increase in patients operated during lockdown. (3 days Vs 5 days, P value = 0.0001).Total patients who presented with perforation were 20 in number which included 12 patients in COVID era and 8 were before lockdown. Perforation rate increased by 8%. There was no mortality.

DISCUSSION:

This was a retrospective study to compare the acute appendicitis before and within lockdown period in covid-19 era, in GMC Jammu. The findings of the study shows that there were total 65 patients in group A and 55 patients in group B. Leukocytosis more than 10000/mm^3 was seen in 34 patients in group A while 46 patients showed leukocytosis in group B which was statistically significant. (P = 0.002). Delayed presentation > 72 hours was seen in 4 patients in group A while in 10 patients in group B. The conservative treatment modalities was used in 9 in group A & 6 in group B, open surgery was performed in 51 patients in group A while in 49 patients in group B and laparoscopic surgery in 5 patients in group A only. Post-operative hospital stay duration tended to increase in patients operated during lockdown. (3 days, 5 days, P value = 0.0001).Total patients who presented with perforation were 20 in number which included 12 patients in COVID era and 8 were before lockdown. Perforation rate increased by 8%. There was no mortality.

The findings of the study are correlated with the findings of study conducted by Baral Suman, et al (2021) to compare the acute appendicitis before and within lockdown period in COVID-19 era. In this study total 42 patients in group A and 50 patients in group B. Mean age of the patients was 31.32±17.18 years with male preponderance in group B (N = 29). Mean duration of pain increased significantly in group B [57.8±25.9(B) vs 42.3±25.0(A) hours, P = 0.004] along with mean duration of surgery [51.06±9.4(B) vs 45.27±11.8(A) minutes, P = 0.015]. There was significant decrease in post-operative hospital stay among group B patients [3.04±1.1(B) vs 3.86±0.67(A) days, P = 0.0001]. Complicated cases increased in group B including appendicular perforation in 10 cases. Similarly, mean duration of presentation to hospital significantly increased in group B patients with perforation [69.6±21.01 vs 51.57±17.63 hours, P = 0.008].[4]

Studies conducted during the lockdown period has shown less patients reporting to hospitals and even those who are presenting to emergency are presenting late. Delayed presentation is seen more in the second group. Appendicular perforation is adrastic complication of delayed presentation. In our study appendicular perforation was seen in 12.3% in group A and 21 % of group B. some studies had shown 16-40% perforation rate. Snapiri et al showed a complication rate of 22% and were similar to study conducted by Tankel et al.

The significant increase in complicated appendicitis and simultaneous significant decrease in uncomplicated appendicitis during the COVID-19 pandemic indicate that patients are not seeking appropriate, timely surgical care suggested by the study conducted byOrthopoulos, G., et al. (2021) assessed the incidence of complicated appendicitis during COVID-19 pandemic. In this study total Fifty-four appendicitis patients were categorized in Group A and thirty-seven in Group B. Those who underwent surgery were compared and revealed a 45.5% decrease (CI: 64.2,-26.7) in uncomplicated appendicitis, a 21.1% increase (CI:3.9,38.3) in perforated appendicitis and a 29% increase (CI:11.5,46.5) in gangrenous appendicitis. Significant differences in the incidence of uncomplicated and complicated appendicitis were also noted when comparing 2020 to previous years.[5]

CONCLUSION

During the COVID-19 pandemic, although the number of cases of acute appendicitis presenting to hospital decreased but the complicated cases drastically increased. Appendectomy remain the main treatment modality.

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