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Retrospective analysis of acute appendicitis patients presenting in a tertiary care centre (Central India)

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ABSTRACT

Background: Acute appendicitisis a very common cause of acute abdomen requiring surgical intervention with an incidence of about 100 per 10000.

Material and methods: A retrospective analysis of medical data based records of 109 consecutive patients who were undergone surgery in department of general surgery in LN Medical College, Bhopal for the diagnosis of acute appendicitis from June 2019 to July 2021 was done. Data was collected from patient on the basis of age, sex , clinical diagnosis pre operative finding. Data was analyzed by using Microsoft excel and statistical package of social sciences (SPSS).

Results: In the present study 109 patients were included in which 60.55% were males and 39.44% were females. Maximum patients were in the age group of 21-30yrs (55.04%) followed by 31-40yrs(30.27%) and 41-50 yrs(14.67%). Migration of pain, RIF Tenderness, leucocytosis was found in 100% patients . Anorexia was found in 80.73% patients, nausea, rebound pain, elevated temperature was found in 75.22% patients respectively. Inflamed appendix was found in 100% patients, appendicular abscess was found in 17.43% patients, Appendicular Perforation was found in 20.18% patients, Faecolith with Inflamed Appendix was found in 15.59% patients. Open Appendicectomy was done in 60.55% patients and Laparoscopic Appendicectomy was done in 39.44% patients. Maximum patients ie 44.95% were stayed for 4 days in the hospital.

Conclusion: The present study shows that acute appendicitis in India is a disease of young males. On further sub-classification of acute appendicitis, uncomplicated acute appendicitis seems to be the most common. Delayed presentation is associated with greater morbidity.

Keywords: acute appendicitis, appendicular abscess, Open Appendicectomy.

INTRODUCTION

Acute appendicitis is acute inflammation and infection of the vermiform appendix, which is most commonly referred to simply as the appendix. The appendix is a blind-ending structure arising from the cecum. Acute appendicitis is one of the most common causes of abdominal pain and is the most frequent condition leading to

emergent abdominal surgery in children. The appendix may be involved in other infectious, inflammatory, or chronic processes that can lead to appendectomy; however, this article focuses on acute appendicitis. Appendicitis and acute appendicitis are used interchangeably.[1]Acute appendicitis is the most common surgical disease, with an incidence of about 100 per 100,000. The life-time risk of developing appendicitis is 8.6% for males and 6.7% for females[2,3]with 90% found in children and young adults and 10% in patients over 60 years old.[4,5]Fecalith is the most common cause of obstruction, others being lymphoid hyperplasia, oedema, stricture, gallstones, adhesions etc[6]. Emergency Appendectomy was the choice of treatment for AA initially and any sort of delay in operative intervention was believed to lead to complications like perforation, periappendiceal abscess etc. However, studies have shown that delayed appendectomy though less superior, does not lead to increased morbidity.[7] Open appendectomy is considered safe and effective but associated with complications such as ileus, intestinal obstruction, wound sepsis etc. Laparoscopic appendectomy with high accuracy and low complication rate has emerged as the modus operandi for both diagnosis and treatment of Acute Appendicitis (AA).[8]The present study was conducted to analyse the pattern and presentation of acute appendicitisat LN Medical College, Bhopal.

MATERIAL &METHODS

A retrospective analysis of medical data based records of 109 consecutive patients who were undergone surgery in department of general surgery in LN Medical College,Bhopal for Uthe diagnosis' of acute appendicitis from June 2019 to July 2021 was done. After obtaining institutional ethical clearance the following data was noted for the study:

1. Age
2. Sex
3. Clinical diagnosis'.
4. Clinical presentation
5. Imaging finding (plain x- ray, ultra sound , CT.)
6. Radiological diagnosis.

Patients with age more than 10 years, both sexes, clinically diagnosed as acute appendicitis were included in the study. Patients with appendicular mass, right Ureteric/Renal colic were excluded from the study. Data was collected from patient i.e. age, sex , clinical diagnosis per operative finding.

STATISTICAL ANALYSIS

Data was analyzed by using Microsoft excel and statistical package of social sciences (SPSS).

RESULTS

In the present study 109 patients were included in which 60.55% were males and 39.44% were females. Maximum patients were in the age group of 21-30yrs (55.04%) followed by 31-40yrs(30.27%) and 41-50 yrs(14.67%). Migration of pain, RIF Tenderness, leucocytosis was found in 100% patients . Anorexia was found in 80.73% patients, nausea, rebound pain, elevated temperature was found in 75.22% patients respectively. Inflamed appendix was found in 100% patients, appendicular abscess was found in 17.43% patients, Appendicular Perforation was found in 20.18% patients, Faecolith with Inflamed Appendix was found in 15.59% patients. Open Appendicectomy was done in 60.55% patients and Laparoscopic Appendicectomy was done in 39.44% patients.44.95% patients stayed for 4 days in the hospital followed by 40.36% patients stayed for 5days in the hospital.

Table 1: Gender wise distribution of study participants

Sex	Frequency	Percentage
Male	66	60.55
Female	43	39.44
Total	109`	100%

Table 2: Age wise distribution

Age distribution	Frequency	Percentage
10-20	0	0
21-30	60	55.04%
31-40	33	30.27
41-50	16	14.67
51-60	0	0
>60	0	0
total	109	100

Table 3: Clinical feature

Clinical Feature	Present	Absent	Present Percentage	Absent Percentage
Migration of pain	109	0	100	0
anorexia	88	21	80.73	19.26
nausea	82	27	75.22	24.77
RIF Tenderness	109	0	100	0
Rebound pain	82	27	75.22	24.77
Elevated temperature	82	27	75.22	24.77
leucocytosis	109	0	100	0

Table 4: Radiological diagnosis of study participants

Radiological Diagnosis	Present	Percentage
Appendicular abscess	19	17.43
Appendicular Perforation	22	20.18
Faecolith with Inflamed Appendix	17	15.59
Inflamed Appendix	109	100
Total	109	100

Table 5: Surgical Procedure

Procedure	Frequency	Percentage
Open Appendicectomy	66	60.55
Laparoscopic Appendicectomy	43	39.44
TOTAL	109	100

Table 6: Duration of hospital stay among study participants

No. Of days	Frequency	Percentage
4th days	49	44.95
5th days	44	40.36
6th days	3	2.75
7th days	6	5.5
8th days	3	2.75
10th days or >	4	3.66
TOTAL	109	100

DISCUSSION

The pathophysiology of recurrent inflammation of the appendix is unclear. In acute appendicitis, it is believed that obstruction of the appendiceal lumen leads to overgrowth of the bacteria. The resultant distension of the appendix causes inflammation, ischaemia and perforation. Some authors speculate that the possible pathophysiology of recurrent appendicitis is either partial obstruction of the appendiceal lumen or the excessive mucus production in the appendix.[9]

In the present study 109 patients were included in which 60.55% were males and 39.44% were females. Maximum patients were in the age group of 21-30yrs (55.04%) followed by 31-40yrs(30.27%) and 41-50 yrs(14.67%). Migration of pain, RIF Tenderness, leucocytosis was found in 100% patients . Anorexia was found in 80.73% patients, nausea, rebound pain, elevated temperature was found in 75.22% patients respectively. Inflamed appendix was found in 100% patients, appendicular abscess was found in 17.43% patients, Appendicular Perforation was found in 20.18% patients, Faecolith with Inflamed Appendix was found in 15.59% patients. Open Appendicectomy was found in 60.55% patients and Laparoscopic Appendicectomy was found in 39.44% patients.44.95% patients stayed for 4 days in the hospital followed by 40.36% patients stayed for 5 days,2.75% for 6 days,5.5% pt for 7 days ,2.75% for 8 days and 3.66 % stayed for 10th day or more in the hospital.

Retrospective data from 593 patients was collected by Biondi et al. in 2016 and was compared for operative time, length of hospital stay, postoperative pain, complication rate, return to normal activity and cost. It was found that in LA, hospital stay was shorter (2.7 ± 2.5 days) with faster return to normal activity (11.5 ± 3.1 days) although total operative time for LA was more (31.36 ± 11.13 min in OA and 54.9 ± 14.2 in LA). Incidence for intra-abdominal abscess was found to be more in LA but it could be reduced with training and experience. Both procedures are still in practice with surgeon's choice being the decisive factor.[10]

Khatana conducted a similar study in 2018. The study concluded that although post-op pain was more in OA, nausea was more pronounced in the laparoscopic group. No significant difference was found in the rest of the post-op complications. Even post-op stay duration was found to be statistically insignificant. Thus, the results of LA were comparable to OA, if not better.[11]

Colson et al proposed that a delay in presentation of more than 12 h after onset of symptoms increased the perforation rate and an in-hospital delay did not affect the perforation rate.[12]

CONCLUSION

A diagnosis of acute appendicitis obvious based on strongly positive clinical presentation. Present study shows that acute appendicitis in India is a disease of young males. On further sub-classification of acute appendicitis,

uncomplicated acute appendicitis seems to be the most common. Delayed presentation is associated with greater morbidity

STUDY LIMITATION

A major limitations of this study were its retrospective nature and short sample size.

CONFLICT OF INTEREST

There is no conflict of interest as such.

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REFERENCES

1. Al-Azizz SA, Mustafa FA, Hussein HF, Majed SS. Study The Parasitic Reasons Which Cause Appendicitis At Basrah City. Egypt J Exp Biol (Zool). 2012;8(2):409–14.
2. S. I. Schwartz, G. T. Shires, F. C. Spencer, J. M. Daly, J. E. Fisher, and A. C. Galloway, *Principles of Surgery*, McGraw-Hill, New York, NY, USA, 7th edition, 1999.
3. C. D. Liu and D. W. McFadden, "Acute abdomen and appendix," in *Surgery: Scientific Principles and Practice*, L. J. Greenfield, M. W. Mulholland, K. T. Oldham et al., Eds., pp. 1246–1261, Lippincott-Raven, Philadelphia, Pa, USA, 2nd edition, 1997.View at: Google Scholar
4. D. G. Addiss, N. Shaffer, B. S. Fowler, and R. V. Tauxe, "The epidemiology of appendicitis and appendectomy in the United States," *The American Journal of Epidemiology*, vol. 132, no. 5, pp. 910–925, 1990.View at: Google Scholar
5. C. L. Temple, S. A. Huchcroft, and W. J. Temple, "The natural history of appendicitis in adults: a prospective study," *Annals of Surgery*, vol. 221, no. 3, pp. 278–281, 1995.
6. Kotwal SR, Jadav SJ (2018) Retrospective study of single dose of antibiotic in laparoscopic appendicectomy. IntSurg J 5: 1897.
7. Shin CS, Roh YN, Kim JI (2014) Delayed appendectomy versus early appendectomy in the treatment of acute appendicitis: A retrospective study. World J EmergSurg 9: 1-5
8. Islam SR, Pasha K, Rahman S, Nasir E, Hanif E, et al. (2014) Laparoscopic vs. open appendectomy: A comparative study. Bangladesh J Endosurgery 2: 5-8.
9. Jeanmonod R, Tomassi M, Mayer D. Case Studies in Emergency Medicine. Cambridge University Press; 2010.
10. Biondi A, Stefano C Di, Ferrara F, Bellia A, Vacante M, et al. (2016) Laparoscopic versus open appendectomy: A retrospective cohort study assessing outcomes and cost-effectiveness. World J EmergSurg 11: 4-9.
11. Khatana PS, Kumar J, Aggarwal M (2018) Comparison of open versus laparoscopic appendectomy. Int J Res Med Sci 6: 2133-2137.
12. Colson M, Skinner KA, Punnington G. High negative appendicectomy rates are no longer acceptable. Am J Surg. 1997;174:723–6.