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General Surgery

INCIDENCE OF NEGATIVE APPENDICECTOMIES IN PATIENTS DIAGNOSED WITH ACUTE APPENDICITIS AFTER CLINICAL DIAGNOSIS AND ULTRASOUND EXAMINATION IN A TERTIARY CARE MEDICAL COLLEGE HOSPITAL IN RURAL UTTARPRADESH, INDIA.

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ABSTRACT Acute appendicitis is among the most common causes of acute abdominal pain presenting in the department of Surgery with a lifetime prevalence of about 6 to 8 %. Cases showing a normal appendix on histopathological examination were taken as negative appendicectomies. (1,8)The present study aimed to find the incidence of negative appendicectomies after clinical evaluation and ultrasound examination in 185 patients admitted in the department of General Surgery in FHMC, Uttar Pradesh between March 2015 and April 2017.This study revealed that the rate of negative appendicectomies in this institution was 7 %. It was found that the highest incidence of appendicitis was in young patients.(2,8) Female patients of reproductive age group showed higher incidence of negative appendicectomies than others.

KEYWORDS : Appendicitis,Negative appendicectomy, Ultrasound examination, Histopathological examination

Introduction:

Acute appendicitis is the most common surgical emergency of the abdomen presenting in the department of general surgery. (1) The lifetime risk of appendicitis is about 6 to 8 %. Although common, the diagnosis is mostly based on clinical findings and further strengthened by ultrasound examination. Patients diagnosed with acute appendicitis underwent appendicectomy as a standard procedure. The appendices were sent for histopathological examination. Those which showed normal histopathology were negative appendicectomy.In young females of reproductive age group rate of negative appendicectomy is higher than other groups,probably because gynecological problems frequently present with similar clinical symptoms in this group of patients. Also, appendices found to be normal on naked eye examination intraoperatively, may show signs of inflammation on histopathology. In the present study an attempt was made to correlate between clinical , intraoperative and histopathological diagnosis of acute appendicitis.Negative appendicectomies are because of wrong clinical diagnosis and inaccuracy of diagnostic tool i.e. ultrasound examination.(1) Failure to do proper clinical examination also leads to improper diagnostic evaluation.

Material and Methods:

This study was carried out in the department of general surgery , FHMC , Tundla, Uttar Pradesh from March 2015 to April 2017. The study included 185 patients who were admitted with the clinical diagnosis of acute appendicitis after clinical judgement and ultrasound . Patients with appendicular lump who were treated conservatively were excluded from the study.Also , patients with history of present illness more than 48 hours were excluded from the study. Appendicectomy was carried out as a standard mode of treatment.After appendicectomy the specimens were sent fo rhistopathological examination in the department of pathology ,FHMC which confirmed the presence or absence of appendicitis. The study was approved by the Ethical Review Committee of FHMC and informed consent was taken from each patient enrolled in this study.Data of each patient was noted on a detailed performa.Diagnosis of acute appendicitis was made after clinical examination,laboratory investigations and ultrasonography.

Results :

Age of patients ranged from 4 to 69 years with median age of 24 years. It was found that incidence of acute appendicitis rises gradually after birth. It is maximum in 11 to 20 years age group and declines gradually in older age groups . So acute appendicitis is a disease of the young. (3,4) Incidence of acute appendicitis was found to be almost equal in male and female patients.

Most common clinical presentation was abdominal pain which migrated from epigastrium to right iliac fossa associated with fever, anorexia and nausea/vomiting. (8,11) Next most common presentation was pain in right iliac fossa associated with fever, anorexia and nausea. Pain was also associated with leukocytosis in most patients.Local tenderness and rebound tenderness was present in most patients.

Positive ultrasound findings included aperistaltic dilated appendix with outer diameter > 6mm , appendiculolith , single wall thickness >3mm ,hypoechoeic fluid filled lumen , periappendicular hyperec hoeicity and fluid collection. All patients with positive findings on ultrasound were included in the study and were subjected to appendicectomy .

Intraoperative findings showed acutely inflamed hyperemic/ suppurative appendix in 84 cases , perforation/gangrene of appendix in 6 and a normal appearing appendix in 10 cases.

Positive histopathology was characterized by lymphoid hyperplasia or appendicloliths in most patients.Appendix was found to be normal in 13 patients[7%] after histopathology.(10)

The final diagnosis showed negative appendicectomy in 13 patients, i.e. 7%.

Discussion :

In the present study , a total of 185 cases diagnosed as acute appendicitis underwent appendicectomy as a standard procedure.

Although the incidence of acute appendicitis is maximum in young patients, this disease affects all age groups from 4 to 69 years in our study. There is almost equal prevalence in male and female subjects.

The overall negative appendicectomy rate is 7%.The number of negative appendicectomies is slightly higher in females of child bearing age group.(1,3) This shows that preoperative diagnosis is more difficult in this group.

It was found intra operatively that 155 patients had acute appendicitis with or without suppuration while 6 patients had perforation/gangrene of appendix. Normal looking appendix was found in 19 cases intraoperatively.Few patients with normal looking appendix on naked eye examination however showed positive histopathology.

It was also observed that classical features of appendicitis were much less in patients who underwent negative appendicectomy. All these findings are in accordance with previous studies at other centers.(1,7,8,12,13,14) It can further be concluded that use of CT scan may further lower down the incidence of negative appendicectomies as such patients are subjected to unnecessary surgical risk and cost. When facilities are available, negative appendicectomy rate can be reduced by extra diagnostic tools (2,5,6,9) like CT scan of abdomen and diagnostic laparoscopy before definitive procedure particularly in female patients.

TABLE-1

Age(In years)	No. Of Patients	Positive Histopathology	Negative Histopathology
0 to 10	1	1	0
11 to 20	86	80	6
21 to 30	63	58	5
31 to 40	16	15	1
41 to 50	11	10	1
51 to 60	6	6	0
61 to 70	2	2	0

TABLE -2

Sex	No Of Patients	Positive Histopathology	Negative Histopathology
Male	96	91	5
Female	89	81	8

TABLE-3 : CLINICAL PRESENTATION

CLINICAL PRESENTATION	No Of Patients
Pain	
Migration of pain from epigastrium/umblical region to rt iliac fossa	91
Pain In rt iliac fossa	53
Pain in umblical region and rt iliac fossa	11
Suprapubic pain and pain in rt iliac fossa	12
Others	18
Anorexia	116
Nausea / Vomitting	102
Tenderness	124
Rebound Tenderness	93
Leucocytosis	151
Fever	52

TABLE-4 : INTRA OPERATIVE FINDINGS

ACUTELY INFLAMMED HYPEREMIC / SUPPURATIVE APPENDIX	155
PERFORATION/GANGRENE	11
APPENDIX NORMAL EYE	19

TABLE -5 : HISTOPATHOLOGICAL EXAMINATION

HISTOPATHOLOGY	No. Of Patients
ACUTE APPENDICITS	172
NORMAL APPENDIX	13

TABLE-6 : FINAL DIAGNOSIS

DIAGNOSIS	No. Of Patients
Positive appendicectomy	172
Negative appendicectomy	13

References :

1. Rahman MZ,Islam J,Hasanuzzaman M,Habib A,Bhattacharjee A.Incidence of negative appendicectomy:Correlation between clinical,preoperative and histopathological findings. Bang.Med. Res. Coun.Bull 2016;42:142-146
2. B.Reich,T.Zalut,S G Weiner.An international evaluation of ultrasound vs.computed tomography in the diagnosis of appendicitis.Inter.J Emer Med 2011
3. Chang A .R. An analysis of the pathology of 3003 appendices. Aust NZ J Surg ;1981:169-78
4. Azad M.A.S.Correlation between clinical diagnosis of acute appendicitis and operative findings-a study of 100 cases in a teaching hospital.Department of surgery,BSMMU,Dhaka.2003.
5. Bijnen CL,et al. Implication of removing a normal appendix. Dig Surg 2003;20:215-221
6. Flum DR,McClure TD,et al. Misdiagnosis of appendicitis and use of diagnostic imaging. J Am Coll Surg 2005;201:933-939
7. Seetahal SA, et al. Negative appendicectomy : a 10 year review of a nationally representative sample. Am J Surg.2011;201(4):433-7
8. Humes D. and Simpson J. Acute appendicitis. BMJ 2006;333(7567):530-34
9. Jones PF. Suspected acute appendicitis: Trends in management over 30 years. Br J Surg 2001;88:1570-77
10. Chan KW,Fu KH,Liung J. The pathology of the appendix in Hong Kong. Br J Chin Pract 1988;42:241-44.
11. Alvarado A .A practical score for the early diagnosis of acute appendicitis. Ann Emerg Med 1996;15:557-564.
12. Adams DH,Fine C,et al. High resolution real time ultrasonography.A new toolin the diagnosis of acute appendicitis. Am J Surg 1988;155:93-97
13. Pieper R,et al. Acute appendicitis: A clinical study of 1018 cases of emergency appendicectomy. Acta Chir Scand 1982;48:51-62
14. Benjamin IS, Patel AG. Managing acute appendicitis- Laparoscopic surgery is particularly useful in women. BMJ 2002;7(325):505-06.