ORIGINAL ARTICLE

ACUTE APPENDICITIS: AN AUDIT OF 663 CASES

Salim Khattak, Saddique Aslam, Asghar Kamal
KUST Institute of Medical Sciences, Kohat, Pakistan

ABSTRACT

Background: Acute appendicitis is a common surgical emergency. This study was conducted to analyze the cases of appendicitis with reference to history, clinical and operative findings in relation to postoperative complications.

Methodology: This case control study was carried out at surgical ward of DHQ Hospital D.I. Khan from January 1st 2001 to Dec 31st 2002. Total number of 633 cases of acute appendicitis admitted to surgical ward was included in this study. A printed proforma was used for the collection of data. All the patients received post operative treatment in ward. Complications in the ward and after discharge were compiled.

Results: Out of total 663 cases, 447 were male and 216 female in the ratio of 2:1. Peak age incidence is 2nd (53.7%) and 3rd (21.4%) decade. Inflamed appendix was most common operative finding n = 531(80%), followed by perforated n = 76 (11.46%) appendix and normal cases were 56(8.44%). Among the complications, wound infection 18.55% (n = 123), bleeding 0.75% (n = 5), paralytic ileus 4.07% (n = 27), intra-abdominal abscess 7.84(n= 52), intestinal obstruction 3.61% (n = 24) and one case of DVT were noted. Higher rate of complication was seen in cases presenting late.

Conclusion: Delay in reaching the hospital and getting treatment from non qualified health care workers result in more complications and increased morbidity. Regulatory mechanism needs to be enforced effectively.

KEY WORDS: Acute appendicitis, Appendicectomy, Complications.

INTRODUCTION

Acute appendicitis is a common surgical emergency affecting teenage population commonly.[1,2] Male and female are equally affected.[3] Since McBurney some 100 years ago, early appendectomy has been advocated and practiced, still delay in diagnosis and treatment leads to complications like gangrene and perforation.[4] Clinical presentation is variable and unpredictable in 50% of cases due to its varied positions[5] so it is said, "beware of those who say they are on your side so is appendicitis." Decision making is easy in about 50% of cases with typical presentation while in atypical cases high diagnostic accuracy is required. Essentials of diagnosis is good history and clinical examination, laboratory investigations are to exclude other pathologies or associated conditions. The role of raised total leukocytes count with shift to the left, ultrasonography[6] and C reactive proteins in the diagnosis of acute appendicitis has been discussed and elucidated, however diagnosis is essentially clinical.[7,8]

Treatment of acute appendicitis is surgery. Timing of surgery depends upon preparedness and necessary preoperative preparation. The rationale of early surgery is not to allow a single case to get complicated. Overnight delay causes no undue increase in complication rate; however 4-6 hours for necessary investigations and resuscitation are enough.

This study is carried out to analyze the situation in our hospital. Time since first symptom and presentation to hospital assessed on admission and verified at surgery. Any explainable cause for the preoperative complications also looked into.

MATERIAL AND METHODS

This case control study was carried out at surgical ward of DHQ Teaching Hospital D. I. Khan from January 1st 2001 to Dec 31st 2002. Number of cases included in the study was 663. All the cases of acute appendicitis admitted to surgical ward were included in the study. Initial assessment with duration of symptoms, treatment received elsewhere, clinical condition recorded and necessary laboratory investigations carried out. Surgery was performed in all cases and selected cases of mass formation and operative findings recorded. All patients received post-op treatment in ward. Complication in the ward and after discharge compiled.

RESULTS

Clinical presentation showed that majority of cases (66%) present in typical way while gastrointestinal and urinary symptoms are less frequent. Signs were predominately local while local. Mass formation is found in 5% cases. About 78% cases presented in the first two days still good number of cases presented later than two days. (Table 1-3)

Table 1: Symptoms of patients with acute appendicitis.

Clinical presentation	Number (%)
Typical (pain starting at peri-umbilical area and localizing at right iliac fossa with associated G I symptoms)	438 (66.06)
GIT Symptoms alone(Anorexia, nausea and or loose motions)	153 (23.07)
Urinary symptoms	72 (10.86)

Table 2: Signs of patients with acute appendicitis.

S. No	Clinical Finding	Number (%)
1	Tenderness and rebound tenderness alone	353 (53.24)
2	Guarding	226 (34.08)
3	Atypical findings	49 (7.39)
3	Mass formation	35 (5.27)

Table 4 shows age & sex distribution and operative findings.

Table 3: Duration of symptoms.

Duration of symptoms	Number (%)
1 Day	327 (49.32 %)
2 Days	189 (28.50 %)
3 Days	99 (14.93 %)
More than three days	48 (7.23 %)
Total	663 (100 %)

Table 5: Complications after surgery.

S. No	Complications	Number (%)
1	Wound Infection	123 (18.55)
2	Bleeding	5 (0.75)
3	Paralytic Ileus	27 (4.07)
4	Intra-abdominal abscess formation	52 (7.84)
5	Intestinal obstruction	24 (3.61)
6	DVT	01

Table 5 shows post operative complications. The rate of post operative complications is more common in cases presenting late or already perforated cases.

DISCUSSION

Results of our study showed that cases of acute appendicitis occur in almost all age groups with peak in second and 3rd decade as in other studies by Aslam MN[1], Shahid N[2] and Ahmad N.[3] Sex incidence of acute appendicitis is showing male dominance in the ratio of 2:1, comparable to other studies i.e. 1.4:1 by Addis DG[9] and equal

Table 4: Age and sex distribution with findings at surgery.

S No	Age group	Male			Female			Total %
		Inflamed	Perforated	Normal	Inflamed	Perforated	Normal	
1	<10	18	2	2	3	1	1	27 (4.07%)
2	10-19	152	28	23	113	19	21	356 (53.7)
3	20-29	89	7	2	36	4	4	142 (21.4%)
4	30-39	41	4	1	7	2	0	55 (8.29%)
5	40-49	34	3	1	1	2	0	41 (6.18%)
6	50-59	20	3	0	1	0	0	25 (3.77%)
7	>60	16	1	0	0	0	0	17 (2.56%)
Total		370	48	29	161	28	27	663 (100%)

(1:1) by Ahmad N.[3] Clinical presentation is typical in 55% cases. Common complaint is pain (66.06%) nausea, vomiting, anorexia (23.07%) and localized tenderness in right iliac fossa in (53.24%). Loose motions, urinary problem and dyspepsia only are other presentations. Operative findings are inflamed 80% (n=531), perforated 11.46 %(n=76) and normal 8.44 %(n=56) comparable with Iqbal M Khan[10] and Temple CL[11]. Diagnosis of perforation based on clinical examination and confirmed on exploration was found in (11.46%) cases, along with localized peritonitis and/or generalized peritonitis, the rate of perforation was more in cases presenting late[12] and similarly high rate of complications.

Post Operative complication are infection (18.55%) followed by intra-abdominal abscesses and paralytic ileus. The same goes parallel to preoperative delay and late presentation and high rate of perforated appendix. Obviously this can not be helped out as there is delay for 2-3 days or more and by the time patient reach the hospital, these complications had set in. The reason for delay is ignorance, lack of education and quacks operating in the area getting advantage of leniency in regulatory mechanism.

Great emphasis is put on the fact that a single appendix shall not be allowed to get perforated rather a margin of removing up to 20% normal appendix is permissible signifying the fact that perforation carries a high morbidity and even mortality. Going to the duration of history it is clear that patients with suspected or diagnosed appendicitis do not reach the hospital within reasonable time and at times they are maltreated at the hands of unqualified practitioners. There is circuit of quacks operating such patients in this area and patients are mismanaged. This trend is further beefed up with the poor regulatory role of health authorities. Lack of education, lack of awareness[13] and poverty contribute to increased morbidity as people are scared of surgery and the cost of surgery seems to be unaffordable for them.

CONCLUSION

Delay in reaching the hospital and getting treatment from non-qualified health care workers result in more perforation and increased morbidity. Regulatory mechanism needs to be enforced effectively.

REFERENCES

1. Aslam MN, Kamran A, Gondal KM,Andrabi I,Mahmood T,Chaudhry AM. 1Appendectomy:A contemporary Appraisal.Ann King Edward Med Coll jun 1999; 5: 184-7.
2. Shahid N,Ibrahim K.Appendicectomy;Non invagination versus invagination of appendicular stump.Professional Med J 2004; 11: 117-20.
3. Ahmad N, Abid KJ,Khan AZ,Shah STA.Acute Appendicitis-Incidence of negative appendicectomies. Ann KingEdward Med Coll Mar 2002; 8: 32-4.
4. Velaovich V,Satava R.Balancing the normal appendectomy rate with the perforated appendicitis rate: implication for quality assurance.Am Surg.1992; 58: 264-9.
5. Ahmad M,Ahmad I,Gill KM.Retrocecal appendix. Professional Med J 2002;9: 135-8.
6. Zeilke A,Hasse C,Sitter H,Sitter MR. Influence of ultrasound on clinical decision making in acute appendicitis: A prospective study.J European Surg 1998; 164: 201-9.
7. Ahmad AN, Fatima N, Hussain RA, Qadir SNR. Comparative evaluation of the role of sonography in diagnosis of acute appendicitis versus surgeon,s clinical impression. Ann King Edward Med Coll 2003; 9: 27-8.
8. Pal K, Khan A. Appendicitis: a continuing challenge. J Pak Med Assoc 1998; 48: 189-92.
9. Addis DG, Shaffer N, Barbaras S, Fowler, Tauxe RV. The epidemiology of appendicitis and appendectomy in the United States. American J Epidemiol 1990; 132: 910-25.
10. Iqbal M, Khan A. An audit of histopathological reports of appendicitis. J Surg Pakistan 2004; 9: 22-3.
11. Temple CL, Huchcroft SA, Temple WJ. The natural history of appendicitis in adults: a prospective study. Am Surg 1992l; 58: 105.
12. Korner H, Sondenna K, Soreide JA. Andersen E, Nysted A. Incidence of acute nonperforated and perforated appendicitis: age-specific and sex-specific analysis. World J Surg 1999; 21: 313-7.
13. Ricci MA, Trevisani MF, Beck WC. Acute appendicitis: a 5-years review. Am surg 1991; 57: 301-5.

Corresponding author:

Prof. Dr. Salim Khattak

Principal

KUST Institute of Medical Sciences

Kohat, Pakistan

E-mail: drsalimkhattak@gmail.com