



“Clinical Study And Management of Perforated Appendicitis ”

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ABSTRACT:

BACKGROUND: - Many aspects of the management of perforated appendicitis remain controversial.

PATIENT AND METHOD: -Prospective study 50 cases of appendicular perforation were carried out from JUNE 2015 to MAY 2017 at RIMS, Ranchi.

RESULTS: - Total of 50 cases, 24 females and 26 males diagnosed as a perforated appendicitis were studied prospectively. Appendicular perforation was most common in 0 to 15 yrs age groups. Perforation more common in rural (60%) and in urban (40%). Pain abdomen 100% was the most common symptom and other significant complain were nausea & vomiting 90%, anorexia 80% and fever 40%. Tenderness in right iliac fossa was most common sign 100% and guarding & rigidity 90%. Non-vegetarians had higher incidence. Faecolith was the most common causes of appendicular perforation. **CONCLUSION:** -Any paediatric or geriatric patient coming from rural areas arriving late at hospital complaining of pain abdomen having tenderness associated with muscular guarding and rigidity in right iliac fossa a very high index of suspicion of perforated appendicitis. Surgery after resuscitation is the main stay of treatment for appendicular perforation.

KEYWORDS: Appendicitis, Appendicular perforation; Appendicular lump; Management

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I. INTRODUCTION

Acute appendicitis is the most common cause of sudden pain abdomen in adolescents and young adults. Peritonitis is a big threat in unaltered acute appendicitis. It occurs as result of free migration of bacteria through an ischemic appendicular wall, through frank perforation of a gangrenous appendix or delayed rupture of an appendicular abscess.

Many aspects of the management of perforated appendicitis remain controversial. About one third of appendicitis cases in children younger than 18 involve a perforated or ruptured appendix. That causes fluid to spill into the peritoneal cavity, increasing risk for infection and other complications. With a perforated appendix, the perforation isn't the problem. It's all the spillage that has spread around the peritoneal cavity. Almost all patients with a perforated appendix will get better with either treatment but the question is which therapy will let you get better sooner and does one cost more? In 1938, a statement about appendicitis and late diagnosis was made, which is true till today.

We must not, as we might easily do, shift blame to an ignorant laity who will not consult their physician early, but wait until the effects of ice bag, cathartic and time have been tried and the golden opportunity for a simple, safe and easy cure has passed”, Caldwell (1938).

In 1887 Thomas Morton performed the first successful appendectomy in the United States. In 1889 Nicholas Senn was one of the first surgeons to diagnose acute appendicitis correctly perform an appendectomy have the patient recover and report the case. In this same year, Charles McBurney described the clinical findings of acute appendicitis, including the point of maximal tenderness, which still bears his name.

Perforated appendicitis is a grave complication of neglected and untreated cases of appendicitis with high mortality and morbidity rates. In recent years however the incidence of perforated appendicitis has been falling because of the recognition of the clinician that it is dangerous to give purgatives in the cases of undiagnosed abdominal pain. Early diagnosis and early appendectomy in the cases of acute appendicitis, better fluid and electrolyte management, better control of infection by antibiotics and better anaesthesia etc. have all played a part in bringing about this improvement.

Factors which promote appendicular perforation include extreme of ages, immune suppression, diabetes mellitus, obstructive appendicitis, free lying pelvic appendix, previous abdominal surgery which limits the ability of a greater omentum to wall of the acutely inflamed appendix.

Thus, the purpose of this prospective study is to look at the features at clinical presentation, management of appendicular perforation and financial factors in children.

II. PATIENTS AND METHODS

A prospective study of 50 patients of appendicular perforation was carried out from June 2015 to May 2017 in the department of surgery at RIMS, Ranchi. The diagnosis of appendicular perforation was considered by clinical, radiological, ultrasonography and was confirmed by laparotomy. This study included 24 females and 26 males. Acute appendicitis patient having perforation on laparotomy were included in this study.

A standard management approach was utilized throughout in this study. Patients were operated on promptly as soon as they were stabilized. All patients were started broad spectrum antibiotic coverage with three drug regimes .1) Cefotaxime + Metronidazole + Gentamycin =12 years of age or more. 2) Cefotaxime + Cloxaciline + Metronidazole = 12 year of age or less. Antibiotic were continued for 3 days postoperatively. Right lower Para median incision was undertaken in all the cases. Fluid encountered on entering peritoneal cavity was taken for culture. Abdominal drain was kept into pelvic cavity and brought out through separate stab incision. Drain was removed after 2 or 3 days and nasogastric suction was maintained post operatively until return of normal bowel sounds.

III. RESULTS

Total of 50 patients, 24 females and 26 males (Fig-1) diagnosed as a perforated appendicitis were studied prospectively.

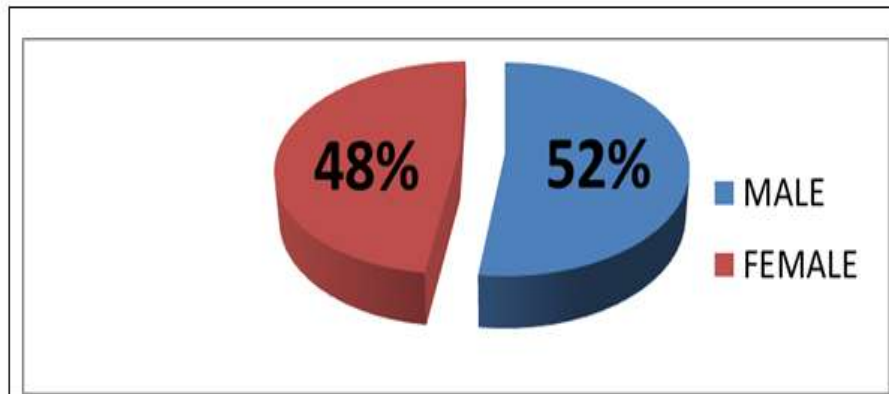


Fig-1 Pie diagram showing Sex incidence

Age group	Number of patients	Percentage
0-15	18	36%
16-30	16	32%
31-50	10	20%
51-70	05	10%
71 & above	01	02%
Total	50	100

Table -1: Showing incidence of perforation in various age groups.

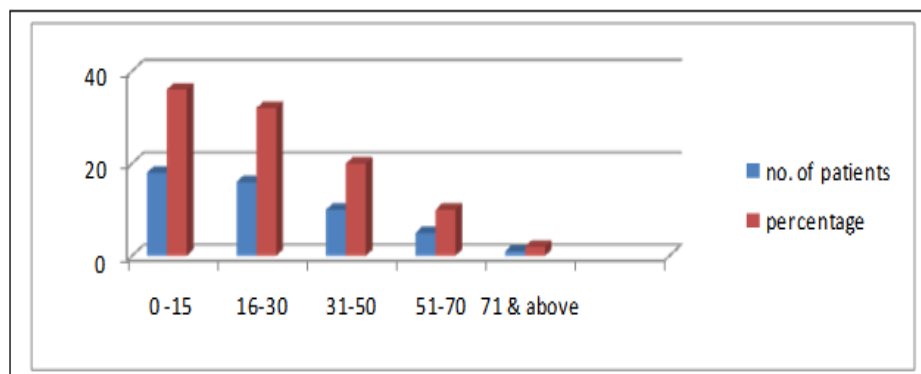


Chart-2: shows the age incidence perforation in various age groups

Above table shows the maximum number of patients 36% was found in the age group of 0 to 15 years. The minimum number of patients 02% was in the age group of 71 and above years of age.

Residence	No. of cases	Percentage
Rural	30	60
Urban	20	40
Total	50	100

Table shows the incidence of perforated appendicitis in rural vs urban patients.

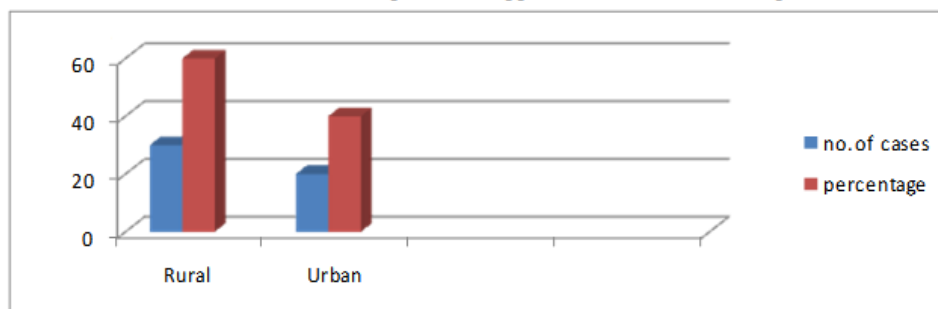


Chart shows the incidence of perforated appendicitis in rural vs urban patients.

Symptoms	No. of patients	Percentage
Pain abdomen	50	100
Nausea & vomiting	45	90
Fever	20	40
Anorexia	40	80
Constipation	12	14
Diarrhoea	4	8
Urinary symptoms	5	10
Abdominal distension	7	14

Table shows the incidence of symptoms in perforated appendicitis

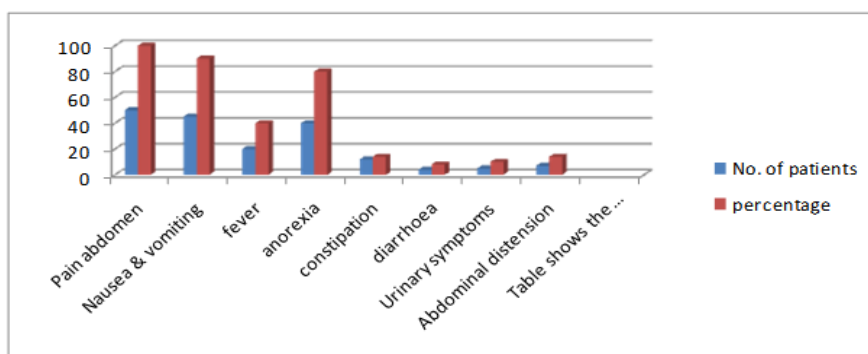


Chart shows the incidence of symptoms in perforated appendicitis

Type of diet	No. of cases	Percentage
Vegetarian	15	30
Non-vegetarian	35	70
Total	50	100

Table- shows incidence of perforated appendicitis in vegetarian vs non-vegetarian patients

Socio Economic status	No. of cases	Percentage
Low	12	24
Middle	33	66
High	5	10
Total	50	100

Table – Shows socio economic status of the cases if perforated appendicitis.

Operative findings	No. of cases	Percentage
Faecoolith	30	60
catarrhal	2	4
Gangrenous	8	16
Ruptured	2	4
Auto amputated	2	4
Appendicular abscess	6	12
Total	50	100

Table-Shows operative findings in perforated appendicitis.

Site	No. of cases	Percentage
Proximal third	35	70
Middle third	5	10
Distal third	15	30
Total	50	100

Table-Shows site of perforation in perforated appendicitis.

Peritonitis	No. of cases	Percentage
Localised	35	70
Generalised	15	30
Total	50	100

Table –shows incidence of localized vs generalized peritonitis in perforated appendix.

Complication	No. of cases	Percentage
Uncomplicated cases	24	48
Complicated cases	26	52
Paralytic ilius	40	80
Acute intestinal obstruction	1	2
Fecal fistula	1	2
Sub hepatic abscess	2	4
Pelvic abscess	2	4
Wound sepsis alone	16	32

Table-Shows incidence of post operative complications in perforated appendicitis.

Hospital stay in days	No. of cases	Percentage
0-10 Days	15	30
11-20 Days	27	54
More than 20 Days	7	14
Total	50	100

Table-Shows Hospital stay in perforated appendicitis.

Final result of treatment	No. of cases	Percentage
Cured	49	98
Died	1	2
Total	50	100

Table-Shows mortality rate of perforated appendicitis.

IV. DISCUSSION

The present study entails about various aspect of 50 cases of perforated appendicitis admitted in emergency in the department of Surgery, RIMS Ranchi, during the year 2015 to 2017. Incidence of appendicular perforation was highest(36%) in age group 0-15 years and lowest incidence in patients above 70 years was 2%. Bhatnagar et al (1978) reported the incidence of appendicular perforation 13% in first decade, 33% in second decade, 44% in third decade, 11% in fourth and 3% in above 50 years. Incidence of perforation in male patients were 52% and remaining 48% female with male and female ratio 1.08:1. Rancheto et al (1990) reported perforation rate 58% in males and 42% in female with male and female ratio 1.4:1. The result of this study 1.08:1 is nearly similar to the result of Rancheto(1990). incidence of perforation in rural areas were 60% and 40% from urban areas. Luckman(1989) et al reported higher incidence of perforation in urbanized areas. In this study rural patient were more because of rural patient report late. Pain abdomen was most common symptom 100% followed by nausea and vomiting 90%. fever 40% and anorexia 80%. Marrero et al (1992) reported that 95% patients have pain right iliac fossa, 85% have nausea and vomiting, 70% have fever etc. The

result of present study is similar to the result of Marrero et al(1992).Abdominal tenderness was the most common sign 100%, muscular rigidity and guarding in 90%.Graham et al(1980) observed tenderness in right iliac fossa 100%,muscular rigidity and guarding 70%.perforation is highest in non vegetarian 70% and less in strict vegetarian 30%.Viliavin et al (1991) reported that appendicitis is more in patients having non residual diet than residual diet.Middle class people have higher incidence 66%,lower class 24% and higher class 10% incidence of perforation.Daniel et al (1991) reported that perforation is more in patients of improved socio-economic status .This result of present study differs because of higher class prefer private hospital and early consult to doctor than middle class people they prefer govt. Hospital .In this study the most common cause of perforated appendicitis was faecolith 60%, other finding were gangrene 16% ,appendicular abscess 12% and other 4%.Bower et al (1939) reported fecolith obstruction causes appendicular perforation 86%.Maximum perforation in proximal third 60% followed by distal third 30%and lastly the middle third 10%.Mann (1995) reported that perforation occurs most often at proximal third of appendix in most cases. Majority 70% of cases were localised peritonitis and only 30% cases were having generalized peritonitis .Ellis et al (1997) reported that after perforation localized peritonitis developed than generalized peritonitis. Complication incidence as wound sepsis 32%, paralytic ilius 8%,subphrenic abscess 4%, pelvic abscess 4% ,intestinal obstruction 2%,faecal fistula 2%.Lund et al (1994) found 4.8% wound infection, intra abdominal abscess 1.3% Enterocutaneous fistula 0.5% and small bowel obstruction 1.6%.the complication of current study are of similar type.Average hospital stay of 14days.Ronchetto et al (1990) observed average hospital stay 7-10 days .mortality rate 2%.Turner et al (1956) reported mortality rate 3.5%.Mortality rate of current study is slight lesser than Turner et al (1956) probably because availability of better antibiotics, improved anaesthesia post operative management.

V. CONCLUSIONS

Appendicular perforation was most common in 0 to 15 yrs age groups.Perforation more common in rural(60%) and in urban (40%).Pain abdomen 100% was the most common symptom and other significant complain were nausea& vomiting 90%,anorexia 80% and fever 40%.Tenderness in right iliac fossa was most common sign 100% and guarding & rigidity 90%. Non-vegetarians had higher incidence. Faecolith was the most common causes of appendicular perforation. Early appendectomy for perforated appendicitis significantly reduced the time away from normal activities, overall adverse event rate. Drain placement appears to be helpful with late diagnosis but is of little benefit when the duration of symptoms is less than four days. Thus it is likely that drains are most useful in patients with well established and localized abscess cavities.

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