Original Article

Perforated Appendicitis

Frequency of Perforated Appendicitis and its Causes in Patients Underwent Appendectomies at Tertiary Care Hospital

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ABSTRACT

Objective: The objective of this study was to find out the frequency of perforated appendicitis and reasons of perforated appendicitis at tertiary care Hospital.

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Department Surgery, LUMHS from February 2014 to January 2015

Materials and Methods: Total 107 patients were admitted in the surgery ward, out of those 75 were underwent appendectomy. All the patients who underwent appendectomy were included in the study after taking informed consent while other patients and patients having co morbidity were excluded from the study. All the information regarding their presenting symptoms, cause of appendectomy etc was recorded on self-designed proforma. Data was entered on SPSS version 16.

Results: Mean age of the patients was 35+- 2.09. 21(28%) patients belong to age group of <30 years, 33(44%) belonged to age group of 30-40 years and 15(20%) were from age group of 41-50 years. Majority of the patients i.e 56(74.66%) were males while 19(25.33%) were females. In this study, 15(20%) patients had perforated appendicitis, 48(64%) had inflamed appendicitis while 10(13.33%) had gangrenous appendix and 2(2.66%) had normal appendix. In our study, the most common cause of perforated appendix was misdiagnosed by doctors as seen in 6(40%) patients followed by delay in reaching hospital seen in 4(26.66%) , while 3(20%) were reluctant for surgery. 45(60%) patients had presented with pain in right iliac fossa, 16(21.33%) had fever and 10(13.33%) had nausea.

Conclusion: We concluded that frequency of perforated appendicitis is 20% and its main associated factors are; misdiagnosis by general practitioners and delay in reaching the Hospitals where surgeons and surgical facilities are available.

Key Words: Appendectomy, perforated appendicitis, appendectomies

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INTRODUCTION

Appendicitis is characterized as theinward lining inflammation of the vermiform appendix which spreads to its different parts. Regardless of symptomatic and advancement in medication, an inflamed appendix remains a clinical crisis and is one of the more typical reasons for the acute pain of the abdomen. Acute appendicitis may because appendiceallumen obstructions. Important reasons of the luminal obstructions including hyperplasia of the lymphoid and secondary to bowel inflammation disease or infection (mostly in young adults and children), focal stasis and the fecaliths (mostly in elderly cases) or more commonly neoplasm and the foreign bodies.

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Approximately 7% peoples having history of appendicitis in their life[1] with peak prevalence around ages of 10 to 30 years.[2]Assessing an elderly cases who having pain of the abdomen is a difficult challenge and one that we would face extra often as mean age increases. Sympathetic why elderly cases having different presentation as compare to Youngers, counterparts can recover the outcomes through decreasing the diagnostic mistakes and big delays in the management. Acute appendicitis is the disease also occurring in the elderly, and is subject to both late presentation and the diagnosis. When compared to the younger generation, the elderly have high ratio of morbidity and mortality. Surgical treatment of the appendicitis is the standard treatment for over a century. Above than 300000surgeries for appendicitis performed each yearinUnitedStates.[3] Appendicular mass, gangrene, perforation; abscess and generalized peritonitis are the complications which can occur if appendicitis is not treated in a timely manner. The life time risk for development of acute appendicitis in males and females is 8.6% and 6.7% respectively.[4] Appendicitis is frequently misdiagnosed and is among the major reasons for malpractice by the emergency room physicians. Appendicular perforation is highly

linked with high rate of morbidity and mortality comparing with non-perforated appendicitis. The purpose of this study was to find out the frequency of perforated appendicitis and reasons of perforation of appendix.

MATERIALS AND METHODS

This cross sectional study was conducted in the surgery department of LUMHS from February 2014 to January 2015. Patients with all age groups either gender were incorporated. Total 107 patients were admitted in the surgery ward, out of those 75 were underwent appendectomies. All the patients who underwent appendectomy were further studied. Informed consent was taken. Patients having other severe comorbidities co morbidity were excluded from the study. All the information regarding their presenting symptoms, cause of appendectomy etc was recorded on self-designed proforma. Data was entered and analyzed in SPSS 20.

RESULTS

Total 100 patients were admitted in the surgery ward, out of those 75 were underwent appendectomies. Mean age of the patients was 35+- 2.09. 21(28%) patients belong to age group of <30 years, 33(44%) belonged to age group of 30-40 years and 15(20%) were from age group of 41-50 years. Majority of the patients i.e 56(74.66%) were males while 19(25.33%) were females. Table 1

45(60%) patients had presented with pain in right iliac fossa, 16(21.33%) had fever and 10(13.33%) had nausea.

In this study, 15(20%) patients had perforated appendicitis, 48(64%) had inflamed appendicitis while 10(13.33%) had gangrenous appendix and 2(2.66%) had normal appendix. Table 2

In our study, the most common cause of perforated appendix was misdiagnosed by doctors as seen in 6(40%) patients followed by delay in reaching hospital seen in 4(26.66%), while 3(20%) were reluctant for surgery.

Table No.1:Patients distribution according to age and gender n=75

Age and gender	Frequency	%
AGE		
<30 years	21	28.0**%**
30-40 years	33	44.0**%**
41-50 years	15	20.0**%**
➢ 50 years	06	08.0**%**
GENDER		
Male	56	74.66**%**
Female	19	25.34**%**

DISCUSSION

This study was conducted to find out the frequency of appendectomy and causes of perforated appendicitis in our setup. In this study, 15(20%) patients had perforated appendicitis, 48(64%) had inflamed appendicitis while 10(13.33%) had gangrenous appendix and 2(2.66%) had normal appendix. Main reason for perforation of appendix is obstruction in the lumen of appendix, and the important reason for luminal obstruction is fecolith, which accounts for 90 % of perforation in appendix. Major factors responsible for appendicular perforation are delay in reaching the hospital after the start of symptoms. As more time will pass, the risk of complications tends to be increases. Diagnostic findings of acute inflammation of appendix on ultrasound are presence of blurreness of fat around the appendix with small exudates in periappendiceal region. In various studies the percentage of these findings varies between 68-100%.[5]

Acute obstructive appendicitis occurs due to formation of closed enteric loop with inflammatory infiltration and mucosal edema, formation of pseudo membrane, hemorrhagic infarction ulcerations, gangrene and finally perforation of the necrotic appendiceal wall. If gangrenous appendicitis perforation occurs, than risk of spillage of its contents in peritoneal cavity increases many fold which results in serious life threatening complications, leading to paralytic ileus, generalized peritonitis, and even systemic sepsis.[6] In our study, the most common cause of perforated appendix was misdiagnosed by doctors as seen in 6(40%) patients followed by delay in reaching hospital seen in 4(26.66%) , while 3(20%) were reluctant for surgery. In the study conducted by, AsadS et al[7] in 30 (23.08%) of the patients diagnosis was missed initially by physicians and they were sent home as OPD case, while 40 (30.77%) were conservatively treated by non-doctors as such OPD case.

It is most important to diagnose this condition, because if it is missed than it may lead to life threatening complications. On the other hand, its misdiagnosis is one of the five most important medical malpractice categories for law suits against attending doctor. In Pakistan health care system, it is seen frequently that mostly patients are first checked by general practitioner's, quacks etc , and they mostly decide whether should be managed. Because of this delay in referral, the morbidity increases,[8,9]which may result in increased risk of perforation.[10]

In our study, 45(60%) patients had presented with pain in right iliac fossa, 16(21.33%) had fever and 10(13.33%) had nausea. Results of the study conducted by Salahuddin O, also shows that all their patients had presented with pain in the right iliac fossa which was seen in in 24 (66%) patients, while pain in lower abdomen was seen in in 6 (17.5%), in right hemi abdomen in 2 (6%) patients, and diffused pain was found in 4 (10.5%) patients.[11] Similarly in study conducted by Rasool AG et al also found that non-medical practitioners, hakeems etc are responsible for

delay in the appendicitis diagnosis.[12] The main presenting cases complaints with acute appendicitis is pain in the abdomen. Categorization of colicky central pain of the abdomen followed by nausea, vomiting and pain radiating to right iliac fossa was 1st describedthrough Murphy. This classical presentation of perforate appendicitis is seen in only 50% of patients. Pain is mostly 24 h of colicky peri-umbilical pain followed by migration to the right iliac fossa.

However in study conducted by Hall and Wright[13] also found right side abdominal pain was found in 83% patients which is main symptom in patients with appendicitis. This progression of pain is because in the start, pain is referred from the visceral innervation of the midgut followed by more localized pain when the parietal peritoneum is involved due to acute inflammatory process. Associated symptoms of appendicitis are nausea, vomiting, loss of appetite. There are many studies which suggest that delay in surgery for appendicitis leads to increase complications.[14-16]

CONCLUSION

We concluded that frequency of perforated appendicitis is 20% and its main associated factors are; misdiagnosis by general practitioners and delay in reaching the Hospitals where surgeons and surgical facilities are available. Early diagnosis of appendicitis may reduce the morbidity and mortality. General practitioners should be taken the surgical opinion in patients having pain at right iliac fossae or suspected appendicitis.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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