Causes of Delayed Presentation of Acute Appendicitis and How it Affects Morbidity and Mortality

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ABSTRACT

BACKGROUND: Acute appendicitis is one of the common abdominal emergency and appendectomy is one of the commonest emergency Surgical procedure performed all over the world.
OBJECTIVE; To evaluate the different causes of delayed presentation of acute appendicitis
MATERIALS & METHODS: This cross sectional study was carried out in Surgical ward of DHQ hospital Timargara Dir. All the patients were subjected to a detailed history, Clinical examination and investigations.
RESULTS: It was found that physicians mis-diagnosed 26.08% of the patients, Around 32.17 % of the patients were mismanaged by Quacks. Patients managed by DHQ district Surgeons were about 5.21% and self medications were found in 13.04 % patients. so presentation due to late arrival and refusal by the patient on financial grounds was 13.04%.About 10.43% of our study patients were complicated due to refusal of surgery by the patients themselves after the diagnosis being told to them.
CONCLUSION: All the patients with pain right iliac fossa should be suspected of acute appendicitis. Proper work up should be done to exclude the diagnosis of acute appendicitis. If the diagnosis is equivocal, the patient should be kept under observation with regular monitoring of vitals. Early appendectomy should be considered as delaying the procedure has serious implications.
Key Worlds: *Appendicitis, Morbidity and Mortality, Delayed presentation.*

This article may be cited as: Khan J, Ali A, Sarwar B.
Causes of Delayed presentation of acute appendicitis and how it affects morbidity and mortality. JSMC 2018.8;1: 34-37

INTRODUCTION:

Acute appendicitis is one of the commonest surgical emergency and appendectomy is one of the commonest surgical procedure performed all over the world in all age groups.[1,2].Almost 10% of the general population develops acute appendicitis with high incidence in second and third decade of life. About 7-8 % of people are affected by acute appendicitis at some age in their lifetime in United States with annual incidence of 25%.[3]Delay in the treatment results in complications such as perforation, mass formation, Abscess etc. However, there are controversies whether pre or post Admission delay is important. Different factors are responsible for perforation due to acute appendicitis in different age groups and this can be explained by the difference in immune status and etiologies of appendicitis. Appendectomy is relatively safe with a mortality rate for non-perforated appendicitis of 0.8 per 1000 and 5 per 1000 after perforation.

Delay in diagnosis and operative interventions can lead to increase morbidity and mortality. The mortality rate is more than 20% in patients of older age groups because of delayed diagnosis and hospitalization and delayed treatment[5]. The high incidence of co morbidities and a wide range of differentials are the contributing factors in this age group[6].

Acute Appendicitis can proceed to perforation, gangren formation , appendicular mass, appendicular abscess, localized peritonitis and generalized peritonitis.[5,6]

As the presentation of acute appendicitis can proceed to perforation and gangrene, therefore it needs to be diagnosed and managed in time. In pediatric population, perforation occurs in 8-24 hours and in adult age group in 36 hours[7].

Misdiagnosis is one of the top five malpractice categories for law suits against emergency room doctors.[8]

Causes of delayed diagnosis and mismanagement are many, including delay at home due to home remedies, local doctors, Quacks, Homeopathic, and medical practitioners. Complicated appendicitis can lead to morbidity, mortality, prolonged stay and financial burden. Other factors responsible for the delay are the differential diagnosis of acute appendicitis, which include Urinary tract infections, pelvic inflammatory diseases, ovarian cysts and gastroenteritis etc[9].Nonspecific pain and delay on part of the patient also causes concern..[10]

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Received: September 27, 2017, Accepted: February 10, 2018

The aim of our study is to point out these causes of delay thus educating people and other relevant specialties, so that they can refer the patients on time to proper set up to decrease mortaliy and morbidity, in this way decreasing financial burden on patient and hospital.

MATERIALS AND METHODS:

This cohort study was carried out at DHQ Hospital Timargara Lower Dir from January 2016 to December 2016. All patients with suspected appendicitis were admitted from OPD and Casualty to the surgical ward. Informed consent was taken and purpose of the study was explained to the patients or their attendants. After taking complete history, physical examination and relevant investigations (blood CP, URE, RFTs and Ultrasound abdomen and pelvis, CT scan in selected cases).Delayed presentation was defined as presentation after more than two days of starting of right iliac fossa pain. All the patients having more than two days of history of symptoms were included in the study. Patients less than 9 years, more than 70 years, patients with comorbid like Diabetes, immune compromised status, and patients on steroids were excluded from the study. All the 115 patients underwent operation. Intra operative findings like gangrenous appendix, Appendicular abscess, perforated appendix etc were noted. Data was entered in pre-formed proforma. Results of demographic characteristics and cause of the delayed presentation were analyzed using SPSS, version 2010.

RESULTS:

Total of 115 patients aged ranging 9-70 years with mean age of 39.7. There were 74 (64.34%)male patients and 41(35.655)female patients. Patients from lower Dir were 71(61.73%),from Upper DIR 26(22.60%) from Bajaur agency 16(13.91%) and from other areas, 2(1.73%).Results are shown below in tabulated and graphic form.

Table 1: Post-operative hospital stay

Days	NUMBER	PERCENT
BELOW 10	77	66.95%
11 -20	33	28.69%
Above 20	5	4.34%
Total	115	100%

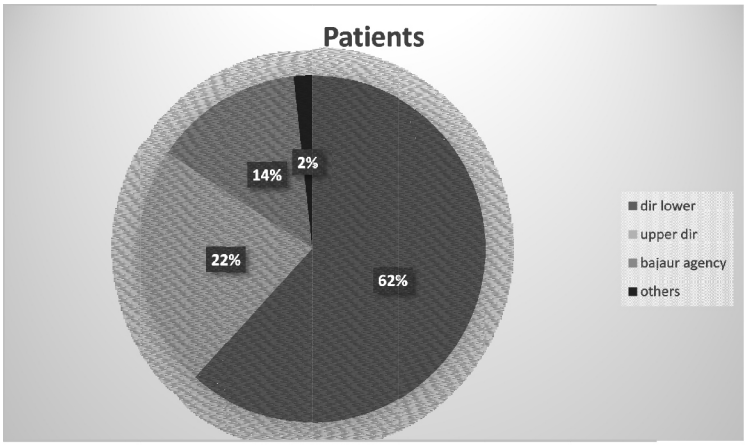


FIGURE 1: GEOGRAPHIC DISTRIBUTION

Table 3 Frequency of causes of delay

Misdiagnosed/managed	Number	Percentage
Physician	30	26.08%
Quakes	37	32.17%
Hospitals/District surgeons	6	5.21%
Refusal of surgery by the patients.	15	13.04%
Delayed arrival from Abroad.	15	13.04%
Self-Medications	12	13.80%

DISCUSSION:

Few surgical conditions have generated as much discussion as appendicitis[11].It is evident clearly that early diagnosis and treatment is associated with good outcome, and low complication rate.[12,13]Appendectomy can be done either open or laparoscopically. Laparoscopic method is associated with early mobilization and less hospital stay[14,15].The nature of health care system in Pakistan is such that patients with acute appendicitis are at first seen by General practitioner, Quakes, Hakims etc. A large portion of our population is abroad(Saudi Arabia, United Arabs emirates) etc, when diagnosed with Acute appendicitis they refuse surgery due to financial problems and delay in transport. Delay in referral while treating an alternative diagnosis increase the risk of perforation and subsequent morbidity and thus increasing mortality.[16]Causes in delay has attracted much attention in literarture[17,18]. 74% our patients presented with complications were males patients which is in accordance with other studies. While in SALATIS study there were twice males as female patients. Maximum hospital stay in our patients is up to 20 days, while the study conducted by Aly Saber in Egypt was 7 days.[19]In our study 30 % patients were mis-diagnosed and managed by the physicians while Shawana Asad and other at Ayub teaching hospital Abbottabad and chung at Hong Kong showed 23% and 25%results[20].

In our study the patients who presented with complications because of the delay at home and mismanagement by non-doctors is 10% and 28% respectively while the study of SHAWANA ASAD et all at Abbottabad showed 23.08% and 37.8% .[4]

Considering the fact that there is lack of proper roads and transportation facilities in most of suburban and rural areas it takes longer to reach the hospital. In rural areas people are preoccupied with their busy schedules particularly in harvest seasons they ignore the early symptoms to avoid disturbance in their work by seeking medical expert opinion. However, one significant factor observed at both rural and urban areas were seeking medical attention from illegally operating Quacks who sell over the counter drugs. Similar delay in diagnosis and treatment was attributed to factors controlled by the patients in another literature. As far as the management is concerned, there is another hurdle i.e. Mismanagement in the initial stages of diagnosis, which is the major contributing, factor for the delay in the diagnosis and treatment. Then comes the nature of the health care system in our country which states that most of the patients of acute appendicitis are first seen by general practitioners, Medical Specialist, and Quakes[17,18]. The clinical decision then is to choose between a diagnosis that lends itself to observation and antibiotics, or alternatively refer the patient for surgical assessment. Patients treated with analgesics and antibiotics often become pain free and require no further medical attention. Unfortunately delay in referral while treating alternative diagnosis increases the risk of mortality and morbadity[9,11,20].

CONCLUSION:

Early diagnosis and proper surgical treatment is sufficient to reduce complications of acute appendicitis. The findings of our study confirm that there is definite need to educate the people to seek early health care and at proper place to avoid complications. Therefore proper measures should be taken to prevent malpractice by quacks and unqualified practitioners.

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