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Original research article

A Study On Clinical Profile Of Patients With Acute Abdominal Conditions Requiring Emergency Surgery At A Tertiary Care Hospital

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Abstract
The general rule for abdominal pain is: the majority of severe abdominal pains, which appear in previously healthy patients and last for at least six hours, may require surgical intervention. Emergent problems such as appendicitis, perforated ulcer, intestinal obstruction, or other obstructive problems may require immediate surgical intervention. In this study 150 patients with various acute abdominal conditions who presented with various acute abdominal conditions underwent both sonological examination of the abdomen and laparotomy in this hospital were included. In the 30 cases where the primary diagnosis was appendicitis ultrasound provided direct or indirect evidence to confim1 12 cases. Out of the 8 cases in which appendicitis was not considered as the primary diagnosis ultrasound diagnosed 3 to be appendicitis.
Keywords: Clinical profile, acute abdominal conditions, emergency surgery

Introduction

The onset of abdominal pain is a common condition that demands an expedient diagnosis and treatment plan. If a patient presents in the emergency room with severe abdominal pain, the clinician must have a defined pathway outlined in order to make a differential diagnosis. It becomes important to not only narrow the differential diagnosis to one primary choice, but also to determine if the patient is a surgical candidate. The general rule for abdominal pain is: the majority of severe abdominal pains, which appear in previously healthy patients and last for at least six hours, may require surgical intervention. Emergent problems such as appendicitis, perforated ulcer, intestinal obstruction, or other obstructive problems may require immediate surgical intervention. An overview of the etiology, clinical signs and symptoms and diseases that fall under the "acute abdomen" and their sonologic findings are presented here [1, 2].
The etiology of the acute abdomen may arise from any of the following causes:
Inflammation: Bacterial or Chemical.
Traumatic: Blunt or penetrating.
Mechanical: Obstruction.
Congenital: Atresia, hernia, malrotation of the bowel.
The infectious category of causes for an acute abdomen would include such conditions as acute appendicitis, diverticulitis or pelvic inflammatory disease.

A patient with appendicitis may present with pain around the umbilicus A gastric ulcer may rupture and the fluid impinge on the diaphragm which may irritate the phrenic nerve and cause radiating pain to the shoulder [3, 4].

Methodology

In this study 150 patients with various acute abdominal conditions who presented with various acute abdominal conditions underwent both sonological examination of the abdomen and laparotomy in this hospital were included.
The following type of patients were not considered.

- Children less than 12 years.
- Cases of acute abdomen operated in other departments like urology, gynecology etc.
- Patients who had already undergone a laparotomy in a outside hospital for the same or related problem.

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Protocol followed in this hospital
A Surgical Resident who makes a provisional clinical diagnosis and also lists out the probable differential diagnosis assesses the patient initially in the Emergency Medicine Department.
He then asks for the necessary hematological, biochemical and radiological investigations.
The patient was subjected to a sonological examination of the abdomen and X-rays of the.

Results
Total number of patients in the study: 150.
Males: 102.
Females: 48.
Age range: 14-85yrs.
Final diagnosis: 48 (32.00%).
Appendicitis and its complications: 33 (22.00%).
Hollow viscus perforations and complications: 21 (14.00%).
Abdominal Trauma: 10 (6.66%).
Intestinal Obstruction: 11 (7.33%).
Mesenteric Ischemia: 12 (8.00%).
Cholecystitis and complications: 9 (6.00%).
Intraabdominal abscesses: 6 (4.00%).
Miscellaneous:

Ultrasound in acute appendicitis (and complications)
Total number of cases: 48
Appendicitis: 38
Appendicular Mass 2.
Appendicular Perforation: 8.
(generalized peritonitis/abscess)

Clinical impression
Appendicitis as primary diagnosis: 30.
Not considered or differential diagnosis: 8.

In the 30 cases where the primary diagnosis was appendicitis ultrasound provided direct or indirect evidence to confim1 12 cases.
Out of the 8 cases in which appendicitis was not considered as the primary diagnosis ultrasound diagnosed 3 to be appendicitis.

Ultrasound was
Uniquely diagnostic: 3.
Confirmed the primary diagnosis: 12.
Provided corroborative evidence: 3.
Not diagnostic/misleading: 30.

A radiologist, using a GE ultrasound machine using 3.5I\1Hz and S:MH.z probes, performed all sonological examinations.
The sonologist at the time of examination is aware of the probable clinical diagnosis.
The treating surgeon correlates his clinical finds with the sonological, radiological and the laboratory findings and decides on the further management of the patient.
The final diagnosis is that made after laparotomy.

Discussion
Clinical diagnosis in blunt abdominal trauma is often limited to diagnosing whether there is solid organ or hollow viscus injury. This can be made fairly accurately as seen by the results.
The striking feature re here is that ultrasound could not provide any evidence-direct or indirect in cases of hollow viscus injury. Even the detection rate of solid organ injury accurately is quite dismal. This is probably why CT scan is considered the gold standard in these cases. But as CT scan is quite often done when the surgeon decides to conservatively manage the patient, the number of CT scans done in this study has been small [5].
The role of ultrasound in this study has been limited to detection of hemoperitoneum before laparotomy. The final diagnosis in most cases could be made on laparotomy only.
Intestinal obstruction
This again is a condition where traditionally ultrasound does not have much of a role to play. But

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ultrasound has provided some evidence or the other regarding the presence of obstruction in as high as 90% of the cases. This is much higher than plain x-ray of the abdomen. Localizing the site of obstruction is not possible using ultrasound [6].

Mesenteric ischemia

Mesenteric duplex imaging and angiography have been considered the investigative modalities of choice in cases of suspected mesenteric ischemia. In an emergency situation it is practically impossible to do this investigations. The traditional investigative methods in this study proved to be very unreliable with more than 90% of the times, the diagnosis being made only on laparotomy. Ultrasound in most cases can provide some nonspecific evidence. Clinical examination is totally unreliable [7].

Cholecystitis and Complications

Ultrasound in this study has been quite reliable in picking up gall stones though it has not detected a few cases of acute cholecystitis. Ultrasound has not been satisfactory in detecting complications like empyema and perforation.

Detection of abscesses especially pelvic have traditionally and in this study been quite good using ultrasound [8].

Conclusion

This included cases of acute appendicitis, hollow viscus perforation, abdominal trauma, intestinal obstruction, mesenteric ischemia, cholecystitis and intra-abdominal trauma.

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