

**Original article:**

## **Abdomen pain management and importance of ultrasonography in elderly patients at tertiary care hospital**

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### **Abstract:**

**Introduction:** Acute abdominal pain can represent a spectrum of conditions from benign and self-limited disease to surgical emergencies. Evaluating abdominal pain requires an approach that relies on the likelihood of disease, patient history, physical examination, laboratory tests, and imaging studies.

**Material and methods:** The present study work was done in Department of Radiology. The sample size was 50 patient included in our study. The sample size was estimated with the help of expert statistician. Herewith we included cases of abdominal pain complaints visiting to OPD . The patients that were referred from Medicine & surgery Department were only included in present study. The obstetrics cases , Pediatric cases were excluded from present study.

**Results:** In our present out of 50 cases, 18 were female patients while 38 were male patients . The mean age range was 38±12.50. The majority patients were from lower socioeconomic group . In our study , the causes of acute abdominal pain range from life-threatening to benign self-limiting disorders. Acute appendicitis, kidney stone , diverticulitis, cholecystitis, and bowel obstruction are common causes of acute abdominal pain. Other important but less frequent conditions that may cause acute abdominal pain include perforated viscus and bowel ischemia.

**Conclusion:** Due to relatively low cost, and absence of ionizing radiation or need for contrast materials, US has maintained an important role in the evaluation of the acute abdomen even in todays modern clinical practice.

**Keywords:** Ultrasonography , abdominal pain

### **Introduction:**

The acute abdomen is a term used to characterize an animal presented as an emergency, in a more or less severe critical state, and for which medical and possibly surgical treatment will be necessary. To succeed, the clinician should use a systematic approach, have an excellent knowledge of the bovine abdominal anatomy, and have a good understanding of the pathophysiology of abdominal pain. Good clinical judgment, critical analysis, and good client communication skills are also essential.(1) For example, right lower quadrant pain strongly suggests appendicitis. Certain elements of the history and physical examination are helpful (e.g., constipation and abdominal distension strongly suggest bowel obstruction), whereas others are of little value (e.g., anorexia has little predictive value for appendicitis). Ultrasonography is recommended when a patient presents with right upper quadrant pain.<sup>2</sup> Some Authors assert that the location of pain is a useful starting point and will guide a further evaluation. However some

causes are more frequent in the paediatric population (like appendicitis or adenomesenteritis) or are strictly related to the gender (i.e. gynaecologic causes). It is also important to consider special populations such as the elderly or oncologic patients, who may present with atypical symptoms of a disease. These considerations also reflect a different diagnostic approach.<sup>3</sup> With this view present study was planned to study of ultrasonography role in abdominal pain cases in adults

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The routine ultrasonography was carried out. Results were tabulated and analyzed.

**Results:**

In our present study, out of 50 cases, 21 were female patients while 29 were male patients . The mean age range was 36±31. The majority patients were from lower socioeconomic group .

**Table 1) Distribution of diagnosed cases**

| Diagnosed cases         | Number of cases | Percentage |
|-------------------------|-----------------|------------|
| Acute appendicitis      | 22              | 44         |
| Cholecystitities        | 2               | 4          |
| Bowel obstruction cases | 0               | 0          |
| Bowel ischemia          | 0               | 0          |
| Kidney stone            | 11              | 22         |
| Other causes            | 15              | 30         |
| <b>Total cases</b>      | <b>50</b>       | <b>100</b> |

In our study , the causes of acute abdominal pain range from life-threatening to benign self-limiting disorders. Acute appendicitis, kidney stone , diverticulitis, cholecystitis, and bowel obstruction are common causes of acute abdominal pain. Other important but less frequent conditions that may cause acute abdominal pain include perforated viscus and bowel ischemia.

**Discussion:**

The acute abdomen is a life-threatening condition that demands urgent intervention. The required diagnostics should address the core problem and has to be chosen based upon the diagnostic strength of each diagnostic tool. Modalities with limited discriminating information regarding differential diagnosis have to be avoided. In our study , the causes of acute abdominal pain range from life-threatening to benign self-limiting disorders. Acute appendicitis, kidney stone , diverticulitis, cholecystitis, and bowel obstruction are common causes of acute abdominal pain. Other important but less frequent conditions that may cause acute abdominal pain include perforated viscus and bowel ischemia.

US is an imaging modality widely available in the Emergency Department. The lower cost and in particular the lack of radiation exposure are the most important advantages of US compared to CT. Furthermore US is a real-time dynamic examination and this characteristic conveys dynamic information about bowel motility, and changes in position and to depict blood flow.<sup>3</sup>

A variety of causes may impair peristalsis, including high-grade small-bowel obstruction, ischemia, enteritis, and infiltrative processes. Another important advantage of US examination is the possibility to correlate the US findings with the point of maximal tenderness.

The most common US technique used to examine patients with acute abdominal pain is the graded-compression procedure [4]. With this technique, interposing fat and bowel can be displaced or compressed by means of gradual compression to show underlying structures. Furthermore, if the bowel cannot be compressed, the noncompressibility itself is an indication of pathology (inflammation such as appendicitis, intussusception, malignancy or luminal distension resulting from obstruction) [4].

Another example of dynamic examination is the evaluation of bowel hernias, mesentery, and omentum through the Valsalva manoeuvre. This manoeuvre may reveal an intermittent hernia, may show the contiguity of a mass with the intraperitoneal space, allowing better depiction of the hernia sac or abdominal wall defect, and showing reducibility [5].

Abdominal pain is a challenging complaint for both primary care and specialist physicians because it is frequently a benign complaint, but it can also be caused by serious pathology (acute abdomen) implying surgery. Physicians are responsible to determine which patients can be safely observed or treated symptomatically and which require further investigations or operation. The overall sensitivity and specificity of the history and physical examination in diagnosing the different causes of abdominal pain is poor, which is especially true for benign conditions.[6]

#### **Conclusion:**

Due to relatively low cost, and absence of ionizing radiation or need for contrast materials, US has maintained an important role in the evaluation of the acute abdomen even in today's modern clinical practice.

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