



ROLE OF RADIOLOGICAL IMAGING IN DIAGNOSIS OF ACUTE APPENDICITIS IN CLINICALLY EQUIVOCAL PATIENTS.

General Surgery

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KEYWORDS

INTRODUCTION

The diagnosis of acute appendicitis was typically based on history, physical examination, and laboratory findings. Women have a greater risk of misdiagnosis. Atypical presentation of appendicitis are commonly misdiagnosed resulting in increased morbidity. A clinical classification is used to stratify management based on simple (non perforated) and complex (gangrenous or perforated) inflammation although many patients remain with an equivocal diagnosis. More recently, CT imaging is being used routinely by emergency room physicians involved with the evaluation of patients with possible appendicitis. Surgeons, however, have resisted the routine use of CT scans in these patients, suggesting that clinical acumen was sufficient. Whereas the use of advanced imaging (CT or ultrasound [US]) in patient groups at high risk for error in diagnosis (fertile women, obese patients, and the extremes of age) More recent evidence, however, has demonstrated that cross-sectional imaging, especially CT, is a useful adjunct in the evaluation of nearly all patients with suspected acute appendicitis. Most patients with possible appendicitis should undergo cross-sectional imaging before exploration. This article reviews the role of cross-sectional imaging in patients with suspected appendicitis.

Demographics

Demographic features, preoperative clinical diagnosis, radiological diagnosis were analysed. The demographics are shifting toward more women and older patients. The differential diagnosis of right lower abdominal pain in women of childbearing age is complex, including gynecologic conditions, such as ovarian cysts, torsion, pelvic inflammatory disease, and ectopic pregnancy. Because management of these conditions is varied, accurate diagnosis is important and diagnostic imaging becomes necessary in most women. Older patients tend to present later and frequently have atypical symptoms. Imaging studies play an important role in diagnosis particularly in equivocal presentation.

CT

Identification of the appendix is possible with most modern CT protocols. Techniques vary but include different combinations of intravenous (IV), oral, and rectal contrast, and variation in the extent of anatomic coverage. The most common technique is a scan of the entire abdomen and pelvis in 5-mm sections with IV and oral contrast. The CT criteria for an inflamed appendix include diameter greater than 6 mm; appendiceal wall thickness greater than 1 mm; appendiceal gas; periappendiceal fat stranding, cecal arrowhead sign. The most common cause of negative appendectomy is incorrect interpretation of the CT scan by the radiologist. In addition CT scanning may identify alternative diagnosis.

Ultrasonography

The graded compression sonographic technique for diagnosis of acute appendicitis was proposed in 1986. Using gentle pressure, the air-filled loops of bowel are displaced while the inflamed appendix remains relatively fixed in place. Compression is performed slowly, because fast movements are not well-tolerated in the patient with peritonitis. The ability to interact with the patient and image the area of maximum tenderness improves the efficacy of this imaging modality. The sonographic findings of appendicitis include compressed diameter greater than 6 mm, brightly echogenic periappendiceal fat, periappendiceal fluid collection and hypervascularity on color Doppler. The size criterion is the most sensitive marker.

RESULTS-

study was done in 550 patients with symptoms of right lower quadrant

pain in a period from November 2021 to October 2023. In 66% patients diagnosis was based on medical history, Physical and laboratory examination only. Diagnostic accuracy was 78%. Another 34% patients underwent selective imaging. Ultrasound was conducted in 177 patients with sensitivity 56% specificity 94%. CT scan was conducted in 52 patients with sensitivity 100% specificity 94%

Summary

Based on current literature review, most patients with suspected or possible appendicitis should undergo cross-sectional imaging. CT scanning is preferred in most patients; Ultrasound is recommended in children or pregnant women. MRI is usually indicated in women or children with nondiagnostic ultrasound. Thin young men with classic history, laboratory studies, and examination are best managed with standard appendectomy without imaging. Most other patients should undergo cross-sectional imaging (ie, CT scan).

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