The Diagnostic Value of Ultrasound in Evaluating Right Iliac Fossa Pain, A Cross-Sectional Study in Iraq

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Abstract

Aim: To evaluate the role of ultrasound in diagnosing RIF pain, particularly its effectiveness in detecting acute appendicitis, and to assess its diagnostic accuracy compared to clinical findings.

Methods: A cross-sectional study was conducted on 105 patients presenting with acute RIF pain at hospitals in Thi-Qar Governorate between June 2024 and January 2025. The data was collected through a direct interview of the patient followed by ultrasound examinations to determine the cause of their symptoms. Diagnostic accuracy was assessed using sensitivity, specificity, and predictive values.

Results: Among the 105 patients, (45%) were male and (55%) were female, with a mean age of 28.4 years. Ultrasound diagnosed appendicitis in (84.76%), followed by ovarian cysts (5.71%) and ureteric stones (3.81%). The sensitivity of ultrasound for detecting appendicitis was 95.5%, with a specificity of 81.25%. The positive predictive value (PPV) was 96.6%, while the negative predictive value (NPV) was 76.5%. False negatives were more common in female patients, suggesting that additional imaging may be needed in certain cases.

Conclusion: Ultrasound is a highly effective diagnostic tool for evaluating RIF pain, particularly in cases of suspected appendicitis. Its high sensitivity makes it a valuable first-line imaging modality, but in cases of diagnostic uncertainty, further imaging such as CT scans or MRI may be required. A combined approach of clinical evaluation and ultrasound improves diagnostic accuracy and patient outcomes.