

# Determining the diagnostic value of an abdominal ultrasound in women presenting with right iliac fossa pain

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## Introduction

Right iliac fossa (RIF) pain is a common acute surgical presentation, with appendicitis being the main differential diagnosis. In women of child bearing age, abdominal and pelvic ultrasounds (USS) are often the imaging modality of choice and can be particularly useful when the diagnosis is unclear. However, it is recognised that the sensitivity and specificity in the diagnosis of appendicitis of USS can vary, depending on the operator. Other differentials in this setting include gynaecological and urological diagnosis, the vast majority of which do not require surgical intervention. In the era of COVID 19 and extreme bed shortages, early identification of such patients should facilitate a prompt management and discharge plan.

## Aim

To determine the diagnostic value of USS in patients of child bearing age, presenting with RIF pain in the emergency setting.

## Methods

A single centre retrospective review, of all women aged 14 to 45 years old, presenting with RIF pain and undergoing a subsequent USS, over a 6 month period. Admission details, initial white cell count (WCC) and CRP, length of stay, radiological investigations and histopathology results were all reviewed.

## Results

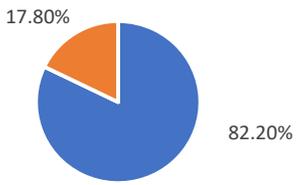
45 consecutive patients were reviewed, with a median age of 28 years (14-45). 37 USS were reported as normal and 8 illustrated gynaecological pathology. None could confirm appendicitis. 24 patients had a normal WCC and a CRP of <5 on admission, none of which had radiological findings requiring surgical intervention. 3 did progress to appendicectomy, 66.6% of which returned with negative pathology. Conservatively managed patients, with a normal USS and normal inflammatory markers, accrued a combined hospital stay of 53 days (mean 2.5 days).

## Discussion

In patients with RIF pain and normal inflammatory markers, an USS is unlikely to demonstrate pathology requiring surgical intervention and therefore is of limited positive diagnostic value. However, a negative USS may aid patient reassurance and facilitate earlier discharge in this cohort. A relatively high negative appendicectomy rate illustrated in those who progressed to appendicectomy in the setting of normal admission bloods and normal USS. A low dose CT as opposed to a diagnostic laparoscopy should be considered in this group.



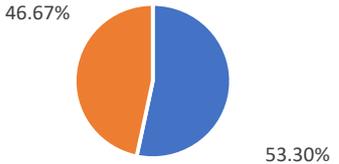
Ultrasound Findings



- No pathology
- Gynaecology pathology

5 CTs → 2 Acute Appendicitis

Admission Inflammatory Markers



- Normal WCC and CRP <5
- Elevated WCC +/- CRP

Normal Bloods + Normal USS = 66.6% negative appendicectomy rate

### References

- Rosengren D, Brown AF, Chu K. Radiological imaging to improve the emergency department diagnosis of acute appendicitis. Emerg Med Australas. 2004 Oct-Dec;16(5-6):410-6. doi: 10.1111/j.1742-6723.2004.00643.x. PMID: 15537403.
- Kundiona I, Chihaka OB, Muguti GI. Negative appendicectomy: evaluation of ultrasonography and Alvarado score. Cent Afr J Med. 2015 Sep-Dec;61(9-12):66-73. PMID: 29144064.