Title: Comparison of Imaging Pathways: Initial US versus CT First in Obese patients with Acute Appendicitis

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Objective:

In this study, we wanted to see if ultrasound as an adjunct to the existing imaging pathway of a preoperative CT scan had any improvement in 30-day outcomes in adult obese patients.

Methods:

Using data gathered from real patients using the TriNetX Global Collaborative Network, we conducted a retrospective cohort study on adult obese patients (BMI≥30) with acute appendicitis, that were diagnosed from ultrasound, with or without a follow up CT scan, versus those who received only a CT scan. Propensity score matching (1:1) was used to balance cohort demographics and reduce confounding variables. The study's primary outcome was hospital readmission rate. Secondary outcomes included peritoneal abscess, perforation, and peritonitis. All outcomes were measured at 30 days after the acute appendicitis diagnosis.

Results:

Those who underwent an ultrasound did not show significant differences in outcomes, compared to those who received a CT scan first. The rates of hospital readmission were similar between the US and CT scan groups, at 11.98% and 13.64% respectively (RR=0.879, p=0.44). For secondary outcomes, no statistical difference was found for the risk of peritoneal/abdominal abscess (RR=0.69, p=0.16), perforation (RR=1.32, p=0.35), or peritonitis (RR=0.90, p=0.59).

Conclusion:

Our study demonstrated statistically equivalent outcomes for adult obese patients diagnosed with acute appendicitis who received an initial ultrasound, compared to those who received a CT scan first.