

Ultrasound for Abdominal Pain in the Emergency Department: Recent Trends and Effects on Disposition

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STUDY OBJECTIVES

- Ultrasound (US) use in the ED for abdominal pain facilitates diagnosis and rules out life-threatening pathologies
- Overuse of CT imaging and unnecessary admissions are costly and limit vital resources
- There is some evidence that US may be underutilized
- Primary Objective – to identify differences in care between abdominal pain visits with versus without ultrasound use
- Hypothesis – US use associated with increased ED discharge



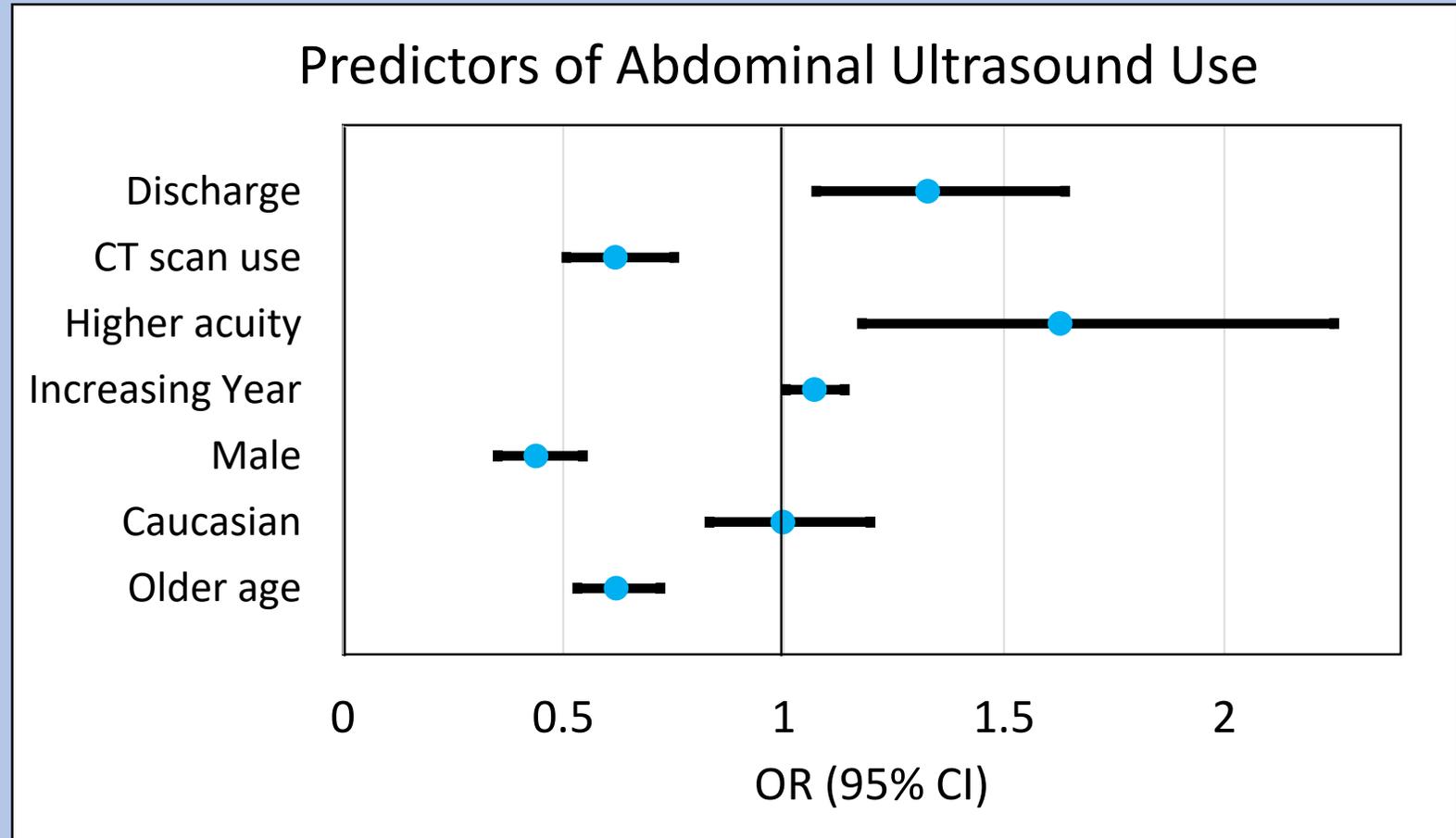
METHODS

- Retrospective, cross-sectional analysis of National Hospital Ambulatory Medical Care Survey data from 2014-2018
 - Total weighted probability sample of ~693 million encounters (based on 101,372 visits) with de-identified information
 - Probability sampling design
 - <5% non-response rate
- Visits with patients ages ≥ 18 with abdominal pain were included.
- Statistical differences in ED care between abdominal pain visits with versus without US evaluated by multivariate logistic regression
 - Compared primary variable of discharge as well as CT abdomen/pelvis utilization and acuity (emergent to non-urgent)



RESULTS

- From 2014-2018, US used in 16% of ED abdominal pain visits
- On regression, US associated with 1.33 times the odds of discharge (95% CI: 1.07-1.64, $p = 0.009$) and 0.62 times odds of CT use (95% CI: 0.51-0.75, $p = 0.000$)
- US positively associated with higher acuity ($p = 0.003$) and increasing year ($p = 0.035$)



CONCLUSIONS

- Use ED abdominal ultrasound has been increasing
- On regression analysis, ultrasound was associated with statistically significant positive and negative correlations with discharge and CT use, respectively
- Our study highlights the role of US in facilitating disposition, which may have implications in reducing costs, unnecessary imaging, and admission

