

MEETING ABSTRACT

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Is there still a role for ultrasound in trauma?

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Background

The UK College of Emergency Medicine recommends that level 1 ultrasound competency is a basic standard for EM doctors and is now mandatory for career progression. Focused Assessment with Sonography in Trauma to include the detection of pleural fluid and pneumothorax (the Extended-FAST scan) forms part of this competency. We compare the diagnostic accuracy of E-FAST with the “gold standard” of CT or operative intervention. Trauma team leaders were asked to evaluate point-of-care ultrasound in their decision-making and patient management.

Methods

Setting

Royal London Hospital. The Major Trauma Centre for North East London and base for London's Air Ambulance. Approximately 2500 adult trauma cases seen per year.

Study design

Prospective observational study, comprising convenience sample of adult major trauma presenting to Royal London between October 2012-March 2013 leading to activation of a “trauma call”.

Primary outcome

To assess the diagnostic accuracy of E-FAST in the detection of haemorrhage (free fluid) and pneumothorax in major trauma.

Secondary outcome

To assess the impact of E-FAST on trauma team leader's decision-making process in major trauma care.

Reference Standard

Free fluid or pneumothorax formally reported on CT or found at time of surgical intervention.

Results

117 patients initially recruited, 45 allowed comparison to reference standard. Sensitivity, Specificity, Positive and Negative Predictive Values for E-FAST (with 95% confidence intervals) were 68.4% (43.5-87.4), 96.3% (81-99.4), 92.9% (66.1-98.8) and 81.3% (63.6-92.8) respectively. 58% of team leaders stated that ultrasound guided their decision-making.

Conclusion

E-FAST has limited sensitivity but high specificity when used in isolation. It influenced trauma team leader's decision-making 58% of the time, despite reported low sensitivity. The major role of ultrasound is the rapid triage of unstable patients and localization of major haemorrhage to help guide immediate life-saving intervention in this subgroup of patients. May reduce CT load in selected patients but further research needed.

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