

The extended focused assessment with sonography for trauma (eFAST) in blunt trauma patients: a cross sectional study

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Introduction: Trauma is the most common cause of death in youngsters. Early detection of internal bleeding via imaging in trauma patients is important. The FAST-extended method and the extended Focused Assessment with Sonography for Trauma (eFAST) evaluates hemothorax and pneumothorax in addition to abdominopelvic bleedings and tamponade.

Methods: In this cross-sectional study, after Baqiyatallah University Ethics Committee approval, 167 blunt trauma in three treatment centers were assessed as follows: Baqiyatallah, Haft-e Tir, and Imam Hossein in 2014-2015, eFast was accomplished in four standard spaces (considering free fluid) and thorax (considering hemothorax and pneumothorax). Results were compared by the result of CT-Scan as the gold standard test. Demographic data, eFAST, and CT-Scan results were analyzed by SPSS (ver18).

Results: A total of 167 patients with a mean age of 38.39 ± 12.31 years were evaluated (129 male and 45 female patients). There was a significant correlation between gender and trauma mechanism ($P < 0.05$). Sixty-one patients were referred because of accident. The mean ISS was 29.65 ± 10.25 . eFAST results from 125 patients were normal, 2 cases with hemothorax, 4 cases with pneumothorax, 18 cases had fluid in Morison's pouch, 13 cases had fluid in splenorenal regions and 11 cases had pelvic free fluid. CT-Scan findings indicated the following: 133 patients were normal, 3 patients had hemothorax, 4 patients had pneumothorax, 31 patients had abdominopelvic free fluids, and 3 patients had retroperitoneal fluid; eFast had a sensitivity of 66.7% and specificity of 100% in diagnosis of hemothorax, and sensitivity of 75% and specificity of 99.4% in diagnosis of pneumothorax.

Conclusion: According to the results, eFAST was recognized as a suitable substitute for CT-Scan in recognizing hemothorax, pneumothorax, and intra-abdominal free fluids. The ability eFAST for recognition and sensitivity is favorable.

Keywords: Blunt trauma, the extended Focused Assessment with Sonography for Trauma, hemothorax, pneumothorax, hemoperitoneum, tamponade.

