



The Use of Fast as an Additional Tool in Blunt Abdominaltrauma

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Traffic accidents result in a significant number of deaths annually, being one of the leading causes of mortality in many countries. These incidents incur substantial societal costs, with a large portion associated with medical expenses, emergency care, injury treatment, victim transport, and productivity loss. Moreover, many of these accidents involve abdominal trauma, which is crucial in categorizing patients into levels of minor, severe, and fatal injuries.

Blunt abdominal trauma can be defined as the transfer of external energy to the abdominal region, which can occur through mechanical, electrical, chemical, or radiation means. It is also classified based on the type of injury as either open or closed. Open abdominal trauma involves a discontinuity of the skin and the possibility of evisceration, subdividing into penetrating and non-penetrating injuries. In closed trauma, there is no loss of integrity, and the damage is caused by kinetic energy.

Blunt abdominal trauma results from compression, shearing, crushing, or deceleration, with automobile accidents accounting for over 70% of cases. This typically occurs due to deceleration and inertia, leading to mechanical shock between the viscera and rigid structures, causing injuries to parenchymal organs. To aid in the management and diagnosis of these patients, the Focused Abdominal Sonogram for Trauma (FAST) is used in emergency settings, even in resource-limited locations, providing autonomy to the physician. In patients with blunt abdominal trauma, clinical and hemodynamic monitoring is essential to avoid unnecessary surgeries. The use of bedside ultrasound has significantly improved the quality of care and prognosis for polytraumatized patients, reducing intervention time and costs. Ultrasound in trauma (AUT) allows the identification of free fluid in the peritoneal cavity, pericardium, and pleural spaces, and can be performed immediately upon the patient's arrival at the emergency room. Additionally, AUT is useful for detecting solid organ injuries, pneumothorax, fractures, and can be employed in multiple victim scenarios as a triage tool.

The Advanced Trauma Life Support (ATLS) establishes an initial assessment protocol for polytraumatized patients, emphasizing immediate evaluation and intervention at each stage. In cases

of blunt abdominal trauma, monitoring the patient's hemodynamic pattern is crucial. Suspected abdominal bleeding requires an ultrasonographic assessment (AUT) and, in the presence of free fluid or peritoneal irritation, an exploratory laparotomy is indicated.

Hemodynamic evaluation is essential for following the care protocol, as a "stable" patient can still be at risk. The goal of AUT is to quickly detect free fluid in the abdominal cavities, typically in about 19 seconds, making it faster than a CT scan. Despite the effectiveness of FAST depending on various factors, it has a high diagnostic power for identifying free fluid, helping to reduce care time and the need for invasive procedures.

Six studies from different regions, conducted between 1999 and 2012, evaluated the accuracy of using ultrasonography in patients with suspected blunt abdominal trauma, focusing on the detection of free fluid in the abdominal cavity. Bode, et al. (1999) showed that ultrasonography correctly detected all patients needing emergency laparotomy. Boulanger and McLellal (1999) demonstrated that an algorithm based on ultrasonography was faster and more cost-effective than a CT scan. Brenchley, et al. (2006) highlighted the importance of medical training to perform the examination accurately. Lee, et al. (2007) found high sensitivity and specificity of FAST for the need for surgery in abdominal trauma patients. Fey, et al. (2012) confirmed the high sensitivity and specificity of FAST, especially in hemodynamically unstable patients. These studies confirm the utility and accuracy of FAST in the assessment of abdominal trauma, providing rapid and reliable diagnoses.

In conclusion, the incidence of blunt abdominal trauma remains high, placing patients in a high-risk group and generating significant hospital costs. These injuries, caused by impacts or abrupt decelerations, need to be quickly diagnosed to assess the involved kinetic energy and classify the severity of the patient. The FAST method (Focused Abdominal Sonogram for Trauma) is effective, easy to apply, and can be used in locations with limited infrastructure. By evaluating critical areas such as the pericardium, hepatorenal, perisplenic, and suprapubic regions, FAST detects free fluid in the abdominal cavity, significantly improving the prognosis. Stud-

ies confirm that FAST is an essential tool in triaging patients with abdominal trauma, with high sensitivity and consistent results. Thus, the implementation and formal training of emergency physicians in the use of FAST can improve the care and prognosis of polytraumatized patients.