Editorial

Focused Assessment Sonography in Trauma: An Impending Screening Advancement in Trauma

Trauma is one of the foremost causes of death worldwide. The increased knowledge of ultrasound in the diagnosis of life-threatening injuries leads to the development of focused assessment with sonography for trauma (FAST). The FAST is used the most common in trauma patients with blunt injuries. In trauma patients, evident bleeding may be seen without noticeable warning signs into the peritoneal, pleural, or pericardial spaces. The aim of bedside ultrasound in trauma is to distinguish rapidly free fluid (usually blood) in the peritoneal, pericardial, or pleural spaces. The FAST scan is used with diagnostic peritoneal lavage and computed tomography scan by experienced trauma surgeon's team.

FAST was initially started in the 80s in Europe and Japan which were later approved by North America in the early 90s. From there FAST scan technique has reached worldwide.[1,2] It is worthy to note that Kuwait was one of the earliest countries in the Middle East to start FAST in the Emergency Department. Physicians in Germany and Japan began the use of bedside ultrasound for trauma patients in the year 1970, whereas the United States started using it in the year 1980. A major influential factor in significantly increased use of ultrasound at the trauma bedside was the development of portable, low-cost, and high-quality machines in the 1990's.[3] Focused assessment sonographic techniques may be defined as bedside diagnosis with the help of portable screening focused, goal-directed, sonographic examination of any internal injury with the with portable radiographic methods and blood investigation objective of detecting blunt injury. It also includes pericardiocentesisand transthoracic echocardiography. FAST can be performed immediately after primary Advanced Trauma Life Support (ATLS) protocol survey. The mainstay behind FAST is to rule out any injuries causing bleeding. Bedside ultrasound is considered to be better than chest radiography for identification of any alternative to other various investigations used in blunt trauma.

Specific Indications

- Penetrating cardiac trauma
- Blunt cardiac trauma
- Blunt abdominal trauma
- Chest trauma (hemothorax, pneumothorax)
  - Hemothorax
  - Pneumothorax

Advantages

- Rapidly performed at patient's bedside
- Non-invasive
- Reproducible
- Low cost
- Portable equipment
- Feasibility in catastrophes and inhospitable conditions-earthquakes, war conflicts.

The FAST examination in trauma patients is done as per ATLS protocol and immediately after the initial inspection and survey of those patients according to ATLS protocol. Ultrasound is the ideal initial imaging modality because it can be performed simultaneously with the other resuscitative cares during emergency and trauma care, providing vital information without the time delay caused by radiographs or computed tomography. The idea behind the FAST exam is that many life threatening injuries leads to internal bleeding. Ultrasound waves are used to record the scanned images. Usually, four scan views are taken to detect any accumulation of fluid in the pericardium and the most dependent zones of the peritoneum. It has the capability of detecting more than 100-250 ml of free fluid in the cavity.

A new protocol extended FAST ed-FAST provides valuable information for improved patient's management, extending its availability from abdominal conditions to another diagnosis like pneumothorax, pleural effusion, and pneumothorax. In the end, I would like to conclude by stating that ultrasonography use in the emergency and intensive care settings furnish pertinent information that should be elucidated along with the patient's clinical data.

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REFERENCES

1. Abu-Zidan FM, Freeman P, Mandavia D. The first Australian workshop on bedside ultrasound in the Emergency Department. N Z Med J 1999;112:322-4.
2. Dittrich K, Abu-Zidan FM. Role of ultrasound in mass-casualty situations. Int J Disaster Med 2004;2:18-23.
3. Abu-Zidan FM, Zayat I, Sheikh M, Mousa I, Behbehani A. Role of ultrasonography in blunt abdominal trauma: A prospective study. Eur J Surg 1996;162:361-5.

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