

Evidence Discussion – Trauma

- Spleen (AB-34.2)

Spleen being a vascular organ, prompt diagnosis and management of potentially life-threatening bleeding is the primary goal. Emergency splenectomy remains a life-saving procedure; hence, the goal of imaging is to utilize abdominal imaging to determine injury to organs and vasculature with speed and accuracy. Thus, CT and ultrasound (US) are the primary imaging methods to determine splenic injury.

US is useful in trauma patients as it is able to rapidly determine the presence of fluid in peritoneal space. However, it cannot rule out injury to organs with accuracy.

CT scan has increased sensitivity and specificity for organ and vascular injury and for identifying patients a surgical approach. CT is highly sensitive for identifying significant intra-abdominal pathology (97 to 98 percent sensitivity and 97 to 99 percent specificity).

Although a noncontrast CT scan may demonstrate sub-capsular hematoma or hemoperitoneum, a contrast-enhanced CT is better able to demonstrate parenchymal and vascular injuries.

MRI is not recommended as an imaging study of choice because it is time-consuming to perform and is not as readily accessible as the imaging methods mentioned above (especially in hemodynamically unstable patients).

References:

- 1) Peitzman AB, Makaroun MS, Slasky BS, Ritter P. Prospective study of computed tomography in initial management of blunt abdominal trauma. J Trauma. 1986 Jul;26(7):585-92. doi: 10.1097/00005373-198607000-00001. PMID: 3723633.
- 2) Benter T, Klühs L, Teichgräber U. Sonography of the spleen. J Ultrasound Med. 2011;30:1281-93.
- 3) Naulet P, Wassel J, Gervaise A, et al. Evaluation of the value of abdominopelvic acquisition without contrast injection when performing a whole body CT scan in a patient who may have multiple trauma. Diagn Interv Imaging. 2013;94(4):410-7