

CASE-OF-THE-DAY

TRAUMA

ANSWERED

AUTHORS:

KANIKA THAPAR, MD¹

MONICA BOULOS, MD¹

MILANA FLUSBERG, MD¹

PERRY GERARD, MD¹

ALEXANDER SOMWARU , MD¹

INSTITUTION:

RADIOLOGY, WESTCHESTER
MEDICAL CENTER/NEW YORK
MEDICAL COLLEGE, VALHALLA, NY,
USA

CASE: 39 year-old-female with history of liver failure was brought to the emergency department as a level I trauma following a motor vehicle accident.

Diagnosis?

Answer: **Traumatic gallbladder rupture**

The arrow points to the defect in the gallbladder wall with surrounding gallbladder fluid compatible with traumatic rupture.



The arrow points to the defect in the gallbladder wall with surrounding pericholecystic fluid compatible with traumatic rupture.

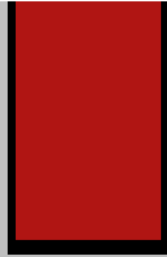


Image 3

Image 4

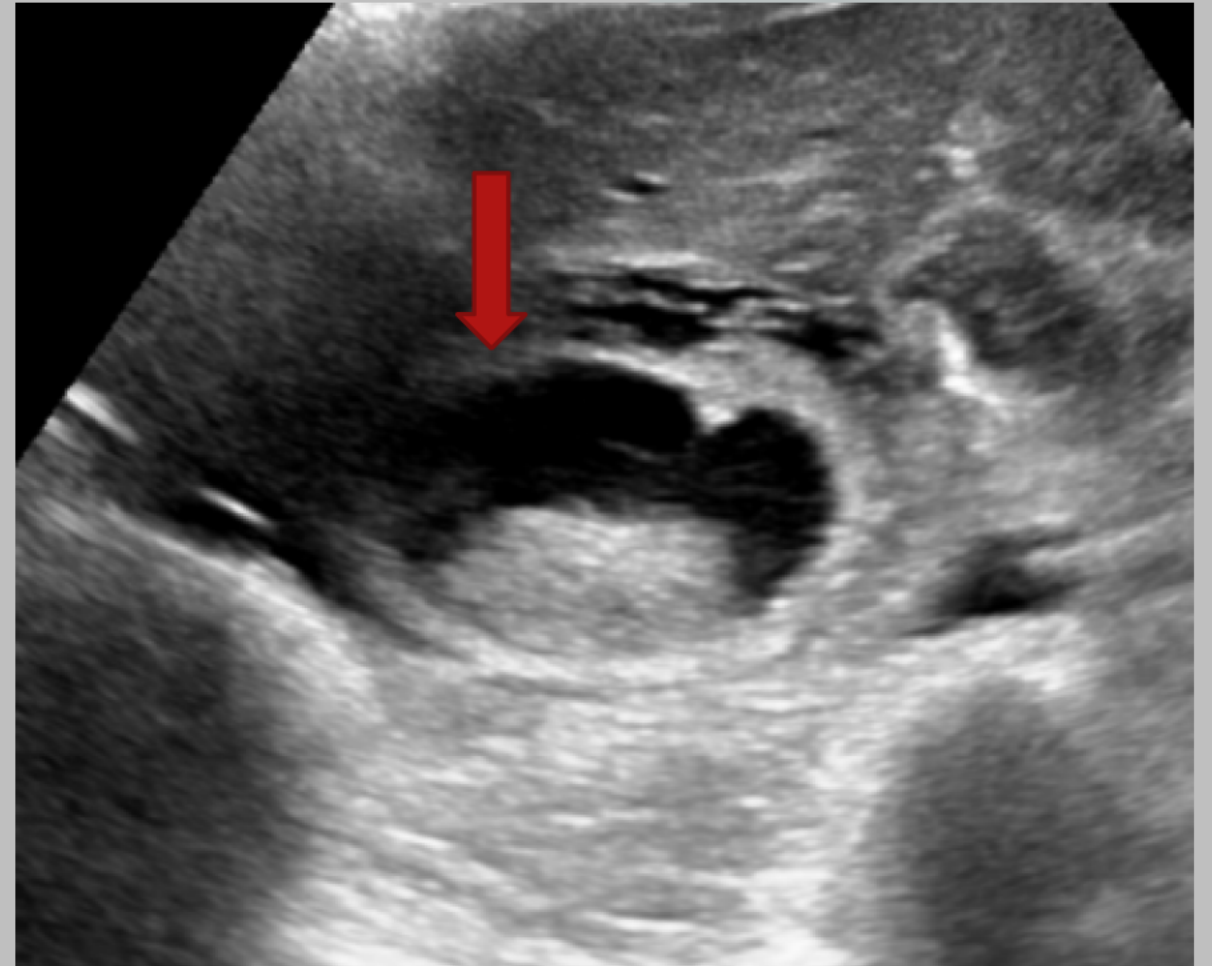
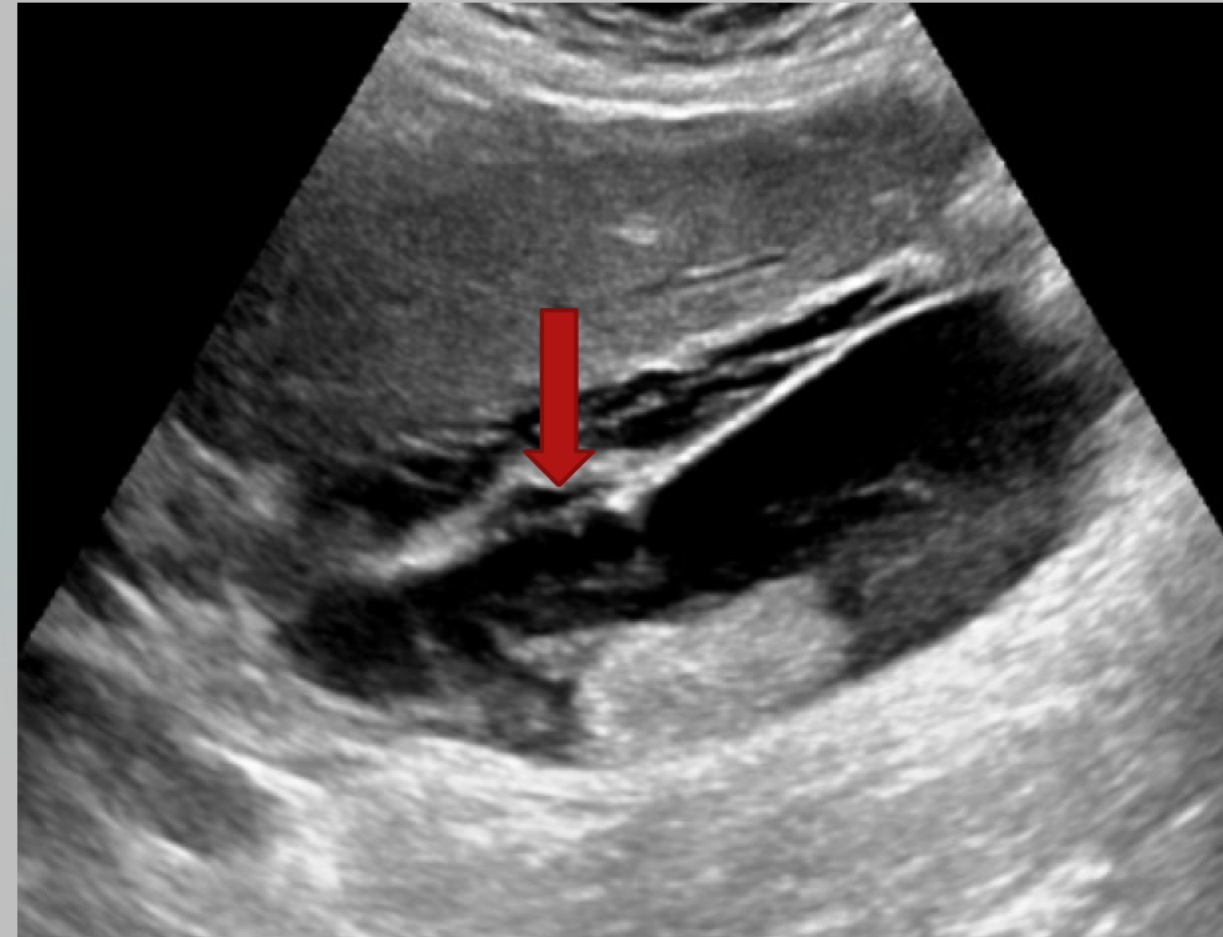
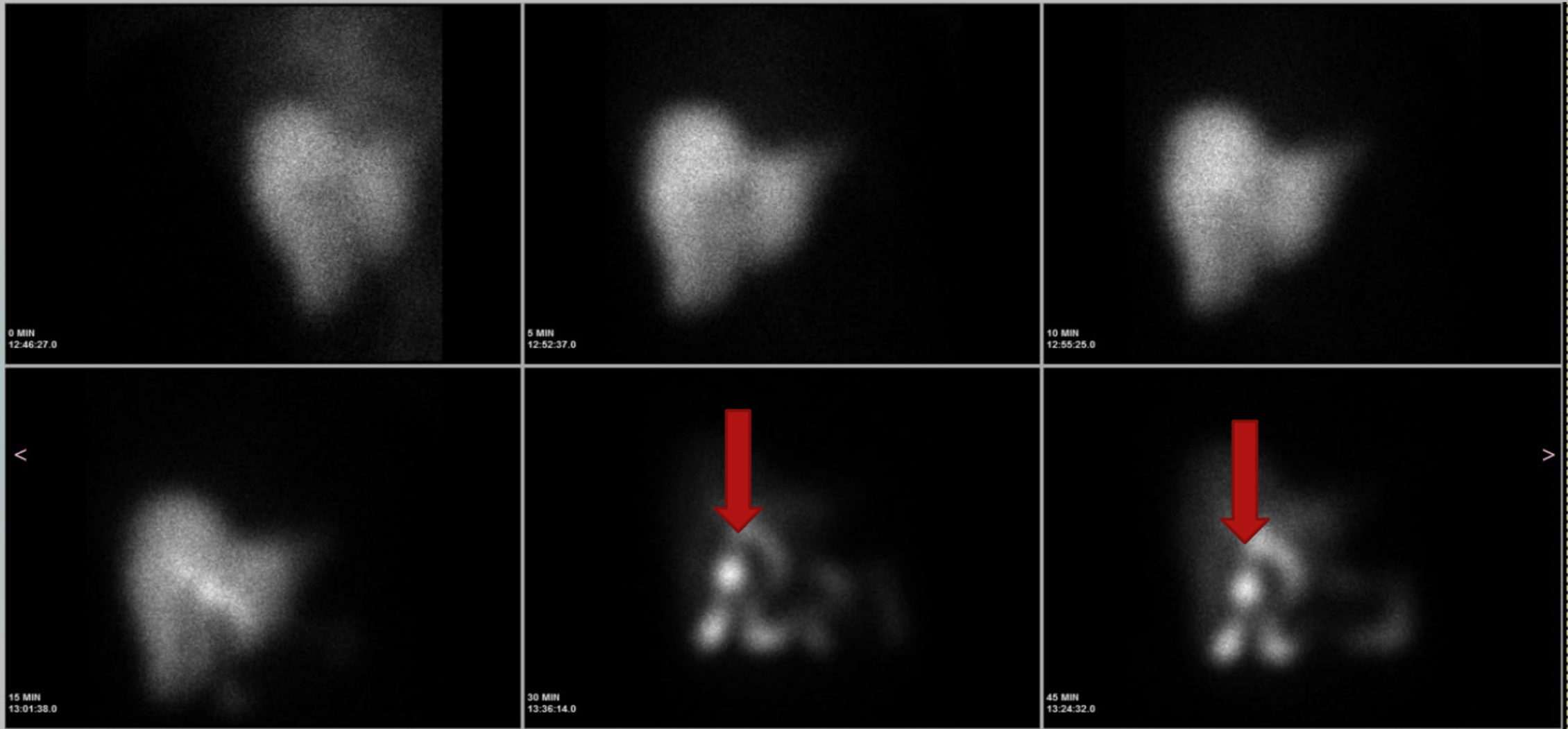
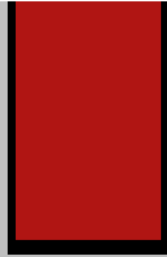


Image 5

Second region of increased tracer uptake above the gallbladder represents a contained bile leak.



Case Answered:

- CT of the chest, abdomen, and pelvis showed an isolated 2.5 cm defect in the gallbladder wall with surrounding fluid suspicious of gallbladder rupture/perforation with bile leak.
- Right upper quadrant ultrasound showed a distended gallbladder with echogenic debris and an anterior wall defect.
- HIDA scan demonstrated a region of increased radiotracer uptake superior to the gallbladder fossa, confirming a bile leak following trauma.

Diagnosis: Isolated traumatic gallbladder rupture following motor vehicle accident.

Summary:

- Isolated gallbladder rupture is a rare entity seen in less than 1-2% of patients following blunt abdominal injury.
- Risk factors include: a stiff cirrhotic liver which can exaggerate the shear forces in the gallbladder fossa and a distended thin-walled gallbladder at the time of injury.
- Cholecystectomy is the standard of care.

References:

1. Jaggard, Matthew K. J. MA(Cantab) BMedSci, BMBS, MRCS; Johal, Navroop S. MB, BCh, MRCS; Choudhry, Muhammad FRSCI, FEBPS, FRCS(Paed Surg). Blunt Abdominal Trauma Resulting in Gallbladder Injury: A Review With Emphasis On Pediatrics. *The Journal of Trauma: Injury, Infection, and Critical Care*: April 2011 - Volume 70 - Issue 4 - p 1005-1010. doi: 10.1097/TA.0b013e3181fcfa17
2. Birn J, Jung M, Dearing M. Isolated gallbladder injury in a case of blunt abdominal trauma. *J Radiol Case Rep*. 2012 Apr;6(4):25-30. doi: 10.3941/jrcr.v6i4.941. Epub 2012 Apr 1. PMID: 22690293; PMCID: PMC3
3. Tudyka V, Toebosch S, Zuidema W. Isolated Gallbladder Injury after Blunt Abdominal Trauma: a Case Report and Review. *Eur J Trauma Emerg Surg*. 2008 Jun;34(3):320. doi: 10.1007/s00068-008-8902-2. Erratum for: *Eur J Trauma Emerg Surg*. 2007 Oct;33(5):545-9. PMID: 26815760.
4. Abouelazayem M, Belchita R, Tsironis D (May 30, 2021) Isolated Gallbladder Injury Secondary to Blunt Abdominal Trauma. *Cureus* 13(5): e15337. doi:10.7759/cureus.15337