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An unusual case of an acute abdomen

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Background

- 82-year-old female presented to A&E with 5-month history of worsening epigastric pain radiating to the chest and back with associated nausea and vomiting.
- The pain is usually worse after meal.
- Blood results showed a slightly raised inflammatory markers and a negative troponin but were otherwise unremarkable.

CT angiogram with contrast

- No evidence of aortic dissection.
- An acutely distended gallbladder with multiple calculi and an impacted stone in the proximal cystic duct was identified (as shown by arrows in Fig 1).

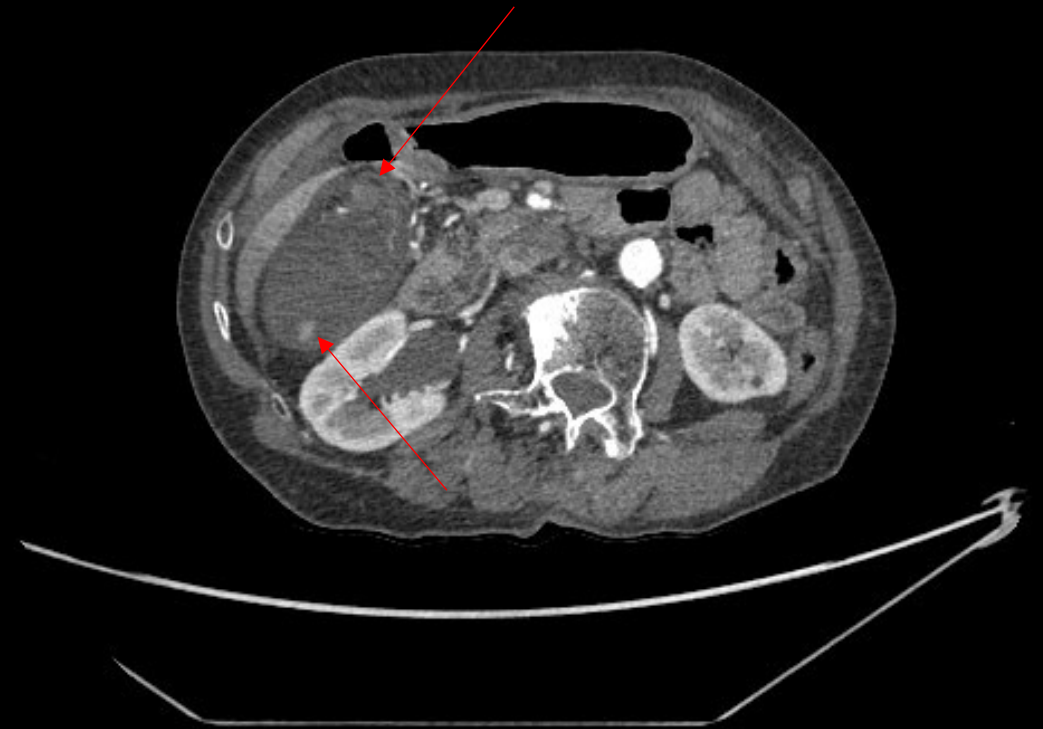


Fig 1: Post-contrast axial CT

Let's follow the patient journey...

- Patient was admitted under surgery.
- IV antibiotics were commenced.
- Symptoms continued to deteriorate alongside the inflammatory markers despite antibiotics.
- The duty radiologist has been consulted to relook at the CT images to identify if there is any possible occult infection that might have been missed.

On a closer look...

- Some enhancing tissues with twisting appearance of vessels at the gallbladder neck were noted, likely to suggest gallbladder torsion (successive CT slices as shown in Fig 2 to 5).

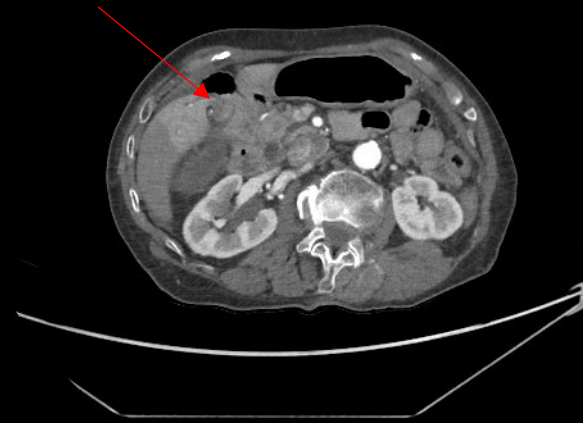


Fig 2



Fig 3



Fig 4

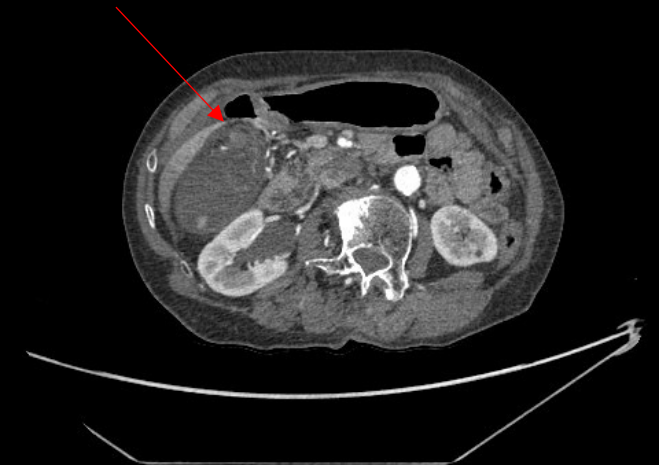


Fig 5

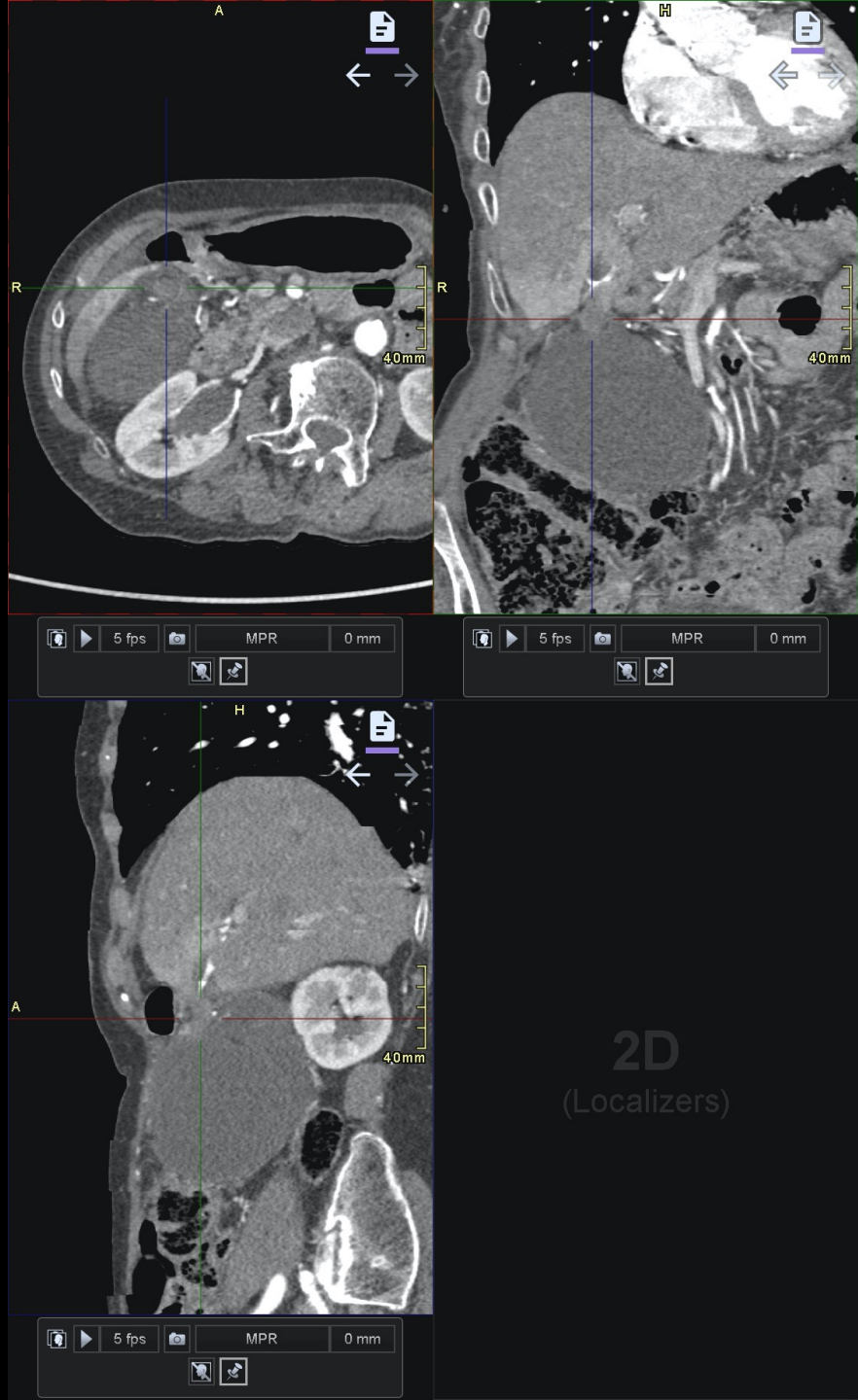


Fig 6: Multiplanar images showing the twisting appearance of vessels at the gallbladder neck.

Gallbladder torsion is a surgical emergency!

- Patient went on to have an emergency laparoscopic cholecystectomy.
- A torted, haemorrhagic and distended gallbladder with thick wall and patches of gangrene, wrapped by the omentum was found and resected.
- Microscopy later confirmed a necrotic gallbladder in keeping with the diagnosis of gallbladder torsion.
- Patient recovered well post-operatively and was discharged with no complications.

Final diagnosis = Gallbladder volvulus

- Also known as gallbladder torsion.
- It is a very rare condition in which there is a rotation of the gallbladder around the axis of the cystic duct and artery.
- Some important key signs on CT to note:
 - A grossly distended gallbladder with an abnormal axis and orientation with a twist, usually in the neck.
 - Lack of gallbladder wall enhancement could indicate gallbladder necrosis.
 - Attenuation of the gallbladder wall could indicate intramural haemorrhage.
- It is a surgical emergency and cholecystectomy is the treatment of choice.

Important take home messages

- Gallbladder volvulus is a rare surgical emergency and can have a fatal outcome if left untreated.
- It is important to consider gallbladder volvulus as a differential diagnosis if CT shows a grossly distended gallbladder with an abnormal axis and orientation with a twist, usually at the neck.

References

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