

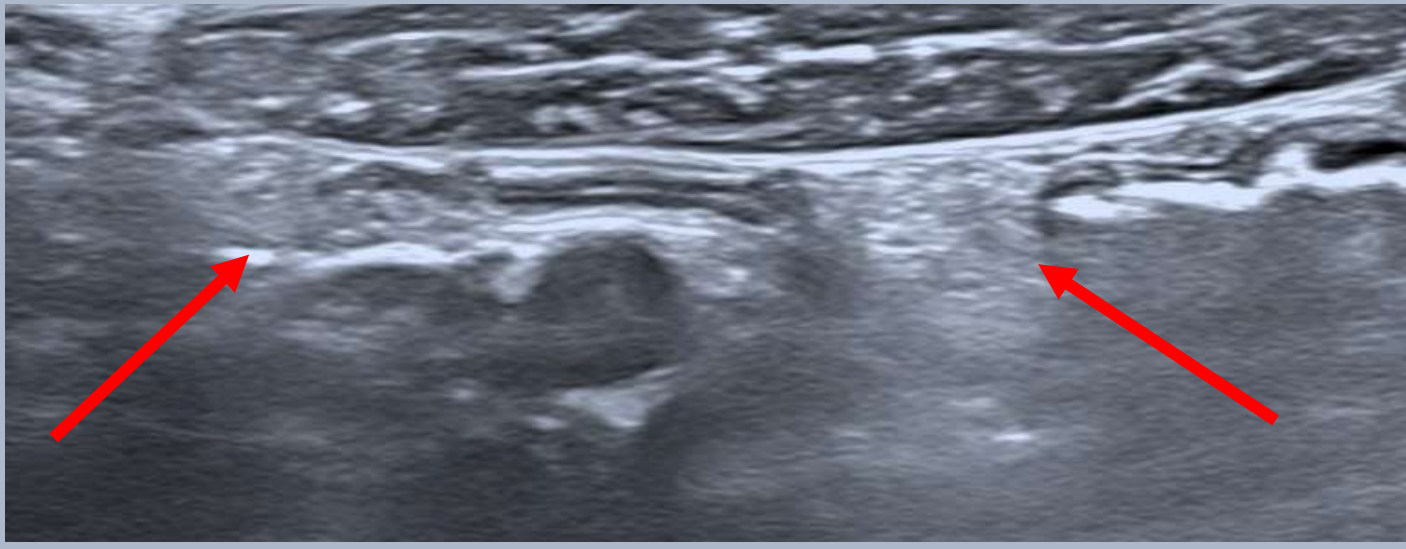
Intra-abdominal Fat : Friend or Foe ?

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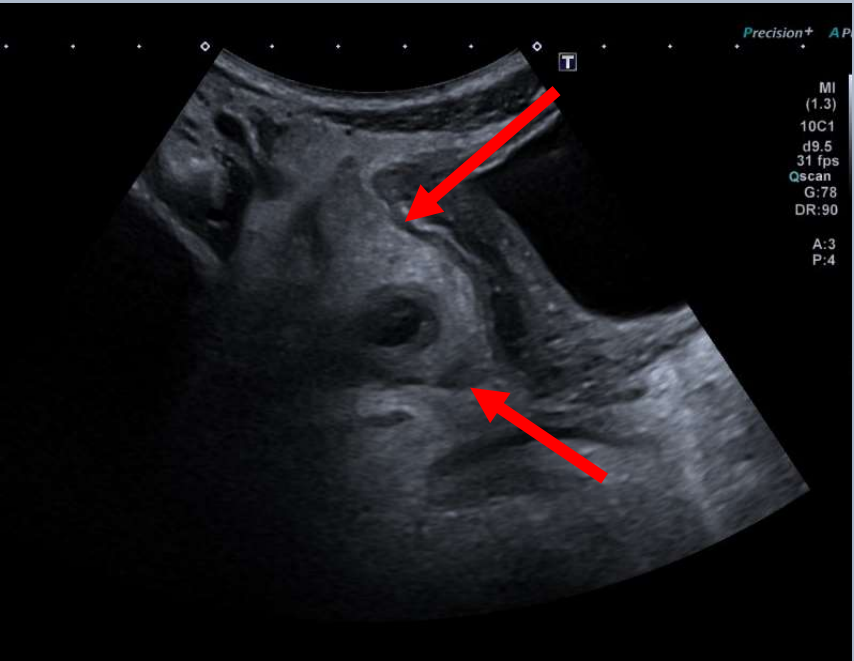
Background:

Inflamed intra-abdominal fat is a common finding on ultrasound scans of the acute abdomen, equivalent to fat stranding on CT scan. Once the ultrasound practitioner is able to recognise the thickening and increased echogenicity of inflamed intra-abdominal fat is often easier to recognise than the underlying pathology. This poster shows the value of assessing the intra-abdominal fat in localising the cause of symptoms during ultrasound of the patient with acute abdominal symptoms.

Normal intra-abdominal fat is of variable thickness dependent upon patient size with mid-range echogenicity and clearly defined internal structure.

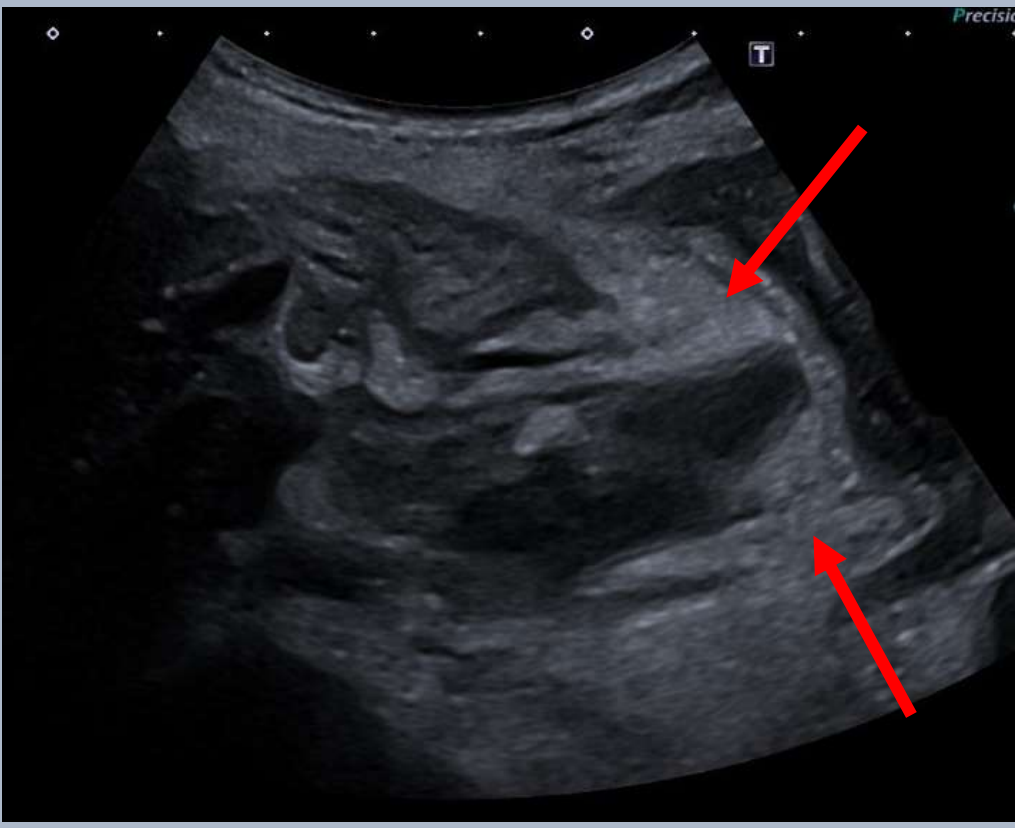


Inflamed fat is thickened, relative to fat elsewhere within a patient's abdomen and shows increased reflectivity with loss of normal internal structure.



Perforated appendicitis

9-year-old male presented with acute RIF pain. USS showed thickened and echogenic fat (arrows) surrounding a thickened appendix with adjacent collection.



Renal Rind sign

37-year-old female presented with AKI 3. USS shows thickening and increase in the reflectivity of the perinephric fat. This renal rind sign is seen in inflammatory conditions of the retroperitoneum such as pyelonephritis.



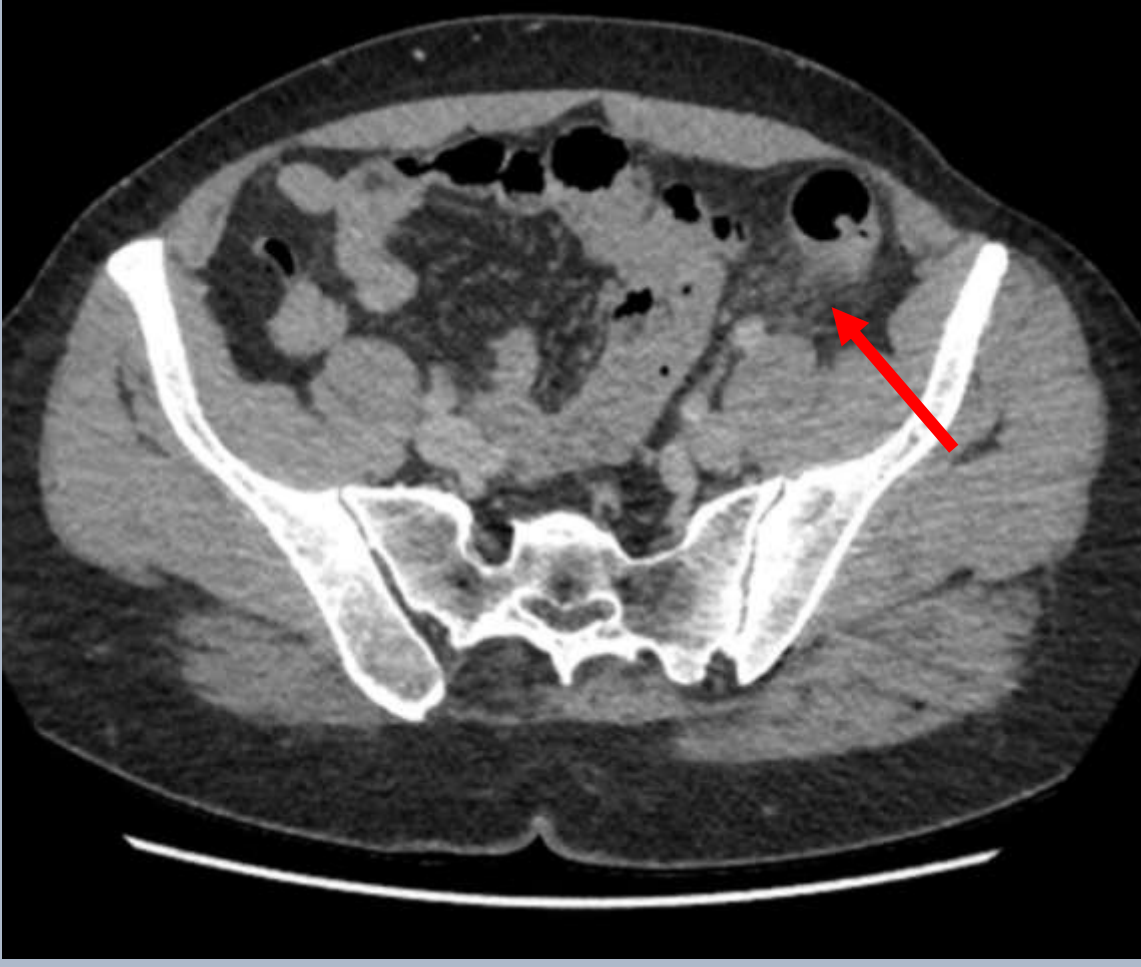
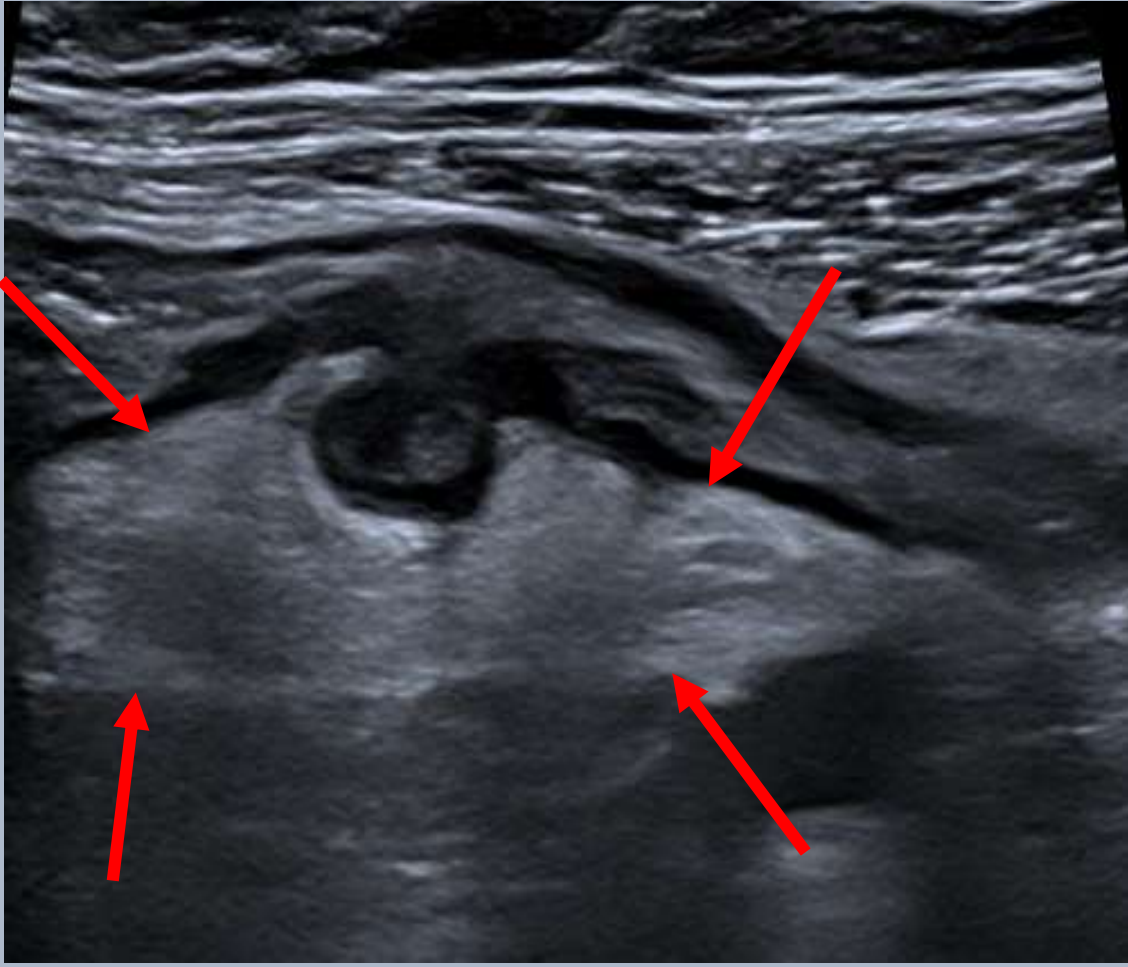
Tubo-ovarian abscess

30 year old female presented with acute lower abdominal pain. USS shows an inflammatory mass in the pelvis with surrounding echogenic inflamed fat (arrows) in keeping with a tubo-ovarian abscess.



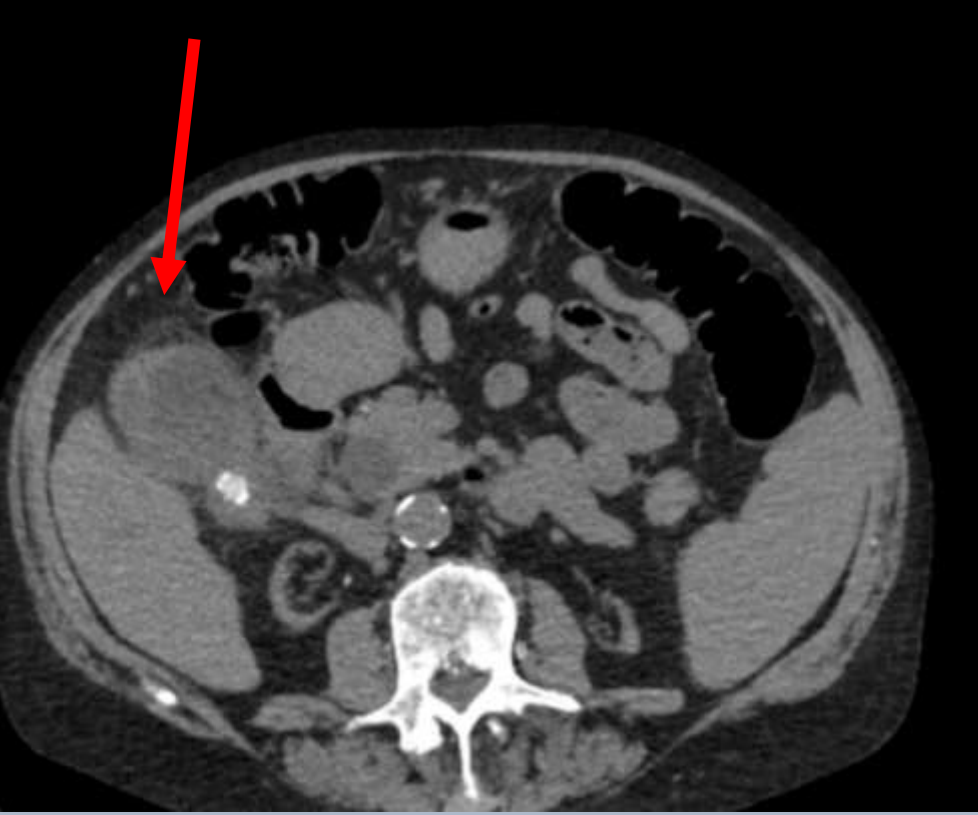
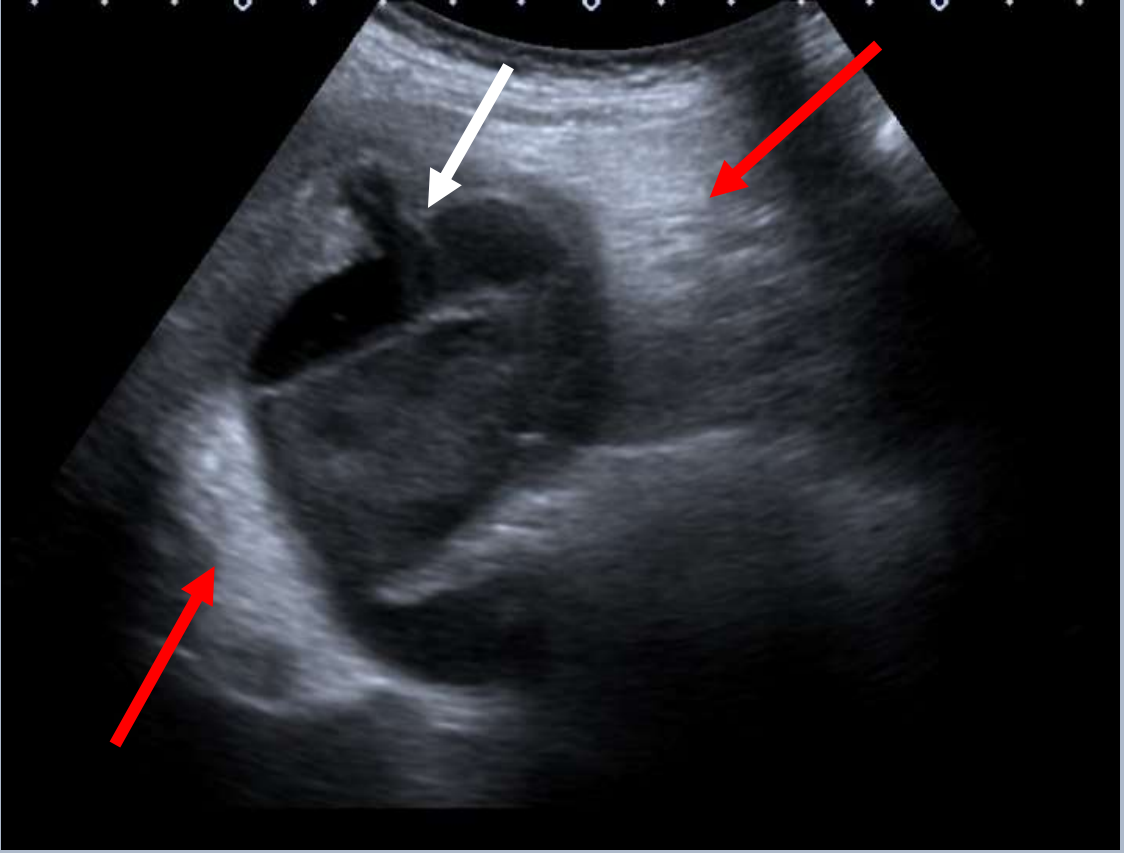
Diverticulitis

59 year old female presented with LIF pain. USS showed a large sigmoid diverticulum with inflamed pericolic fat (arrows) implying diverticulitis. This was confirmed on subsequent CT scan with fat stranding (arrow)



Perforated Cholecystitis

70-year-old male presented with acute, severe RUQ pain. USS showed inflamed pericholecystic fat (red arrows). Further careful examination showed a gall bladder wall defect (white arrow) confirming a perforated gall bladder. Subsequent CT scan confirmed these findings with pericholecystic fat stranding (arrow)



Conclusion

It is widely acknowledged on evaluating CT scans that 'fat is our friend' and that inflamed fat/ fat stranding can be used as a marker to localise and diagnose pathology. Similarly, familiarity with this important ultrasound marker serves to increase the ability of ultrasound practitioners to localise and diagnose the cause of symptoms in patients who present with acute abdominal symptoms.

References

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