

Ultrasound ninja to the rescue- the sepsis and hemodynamic savior

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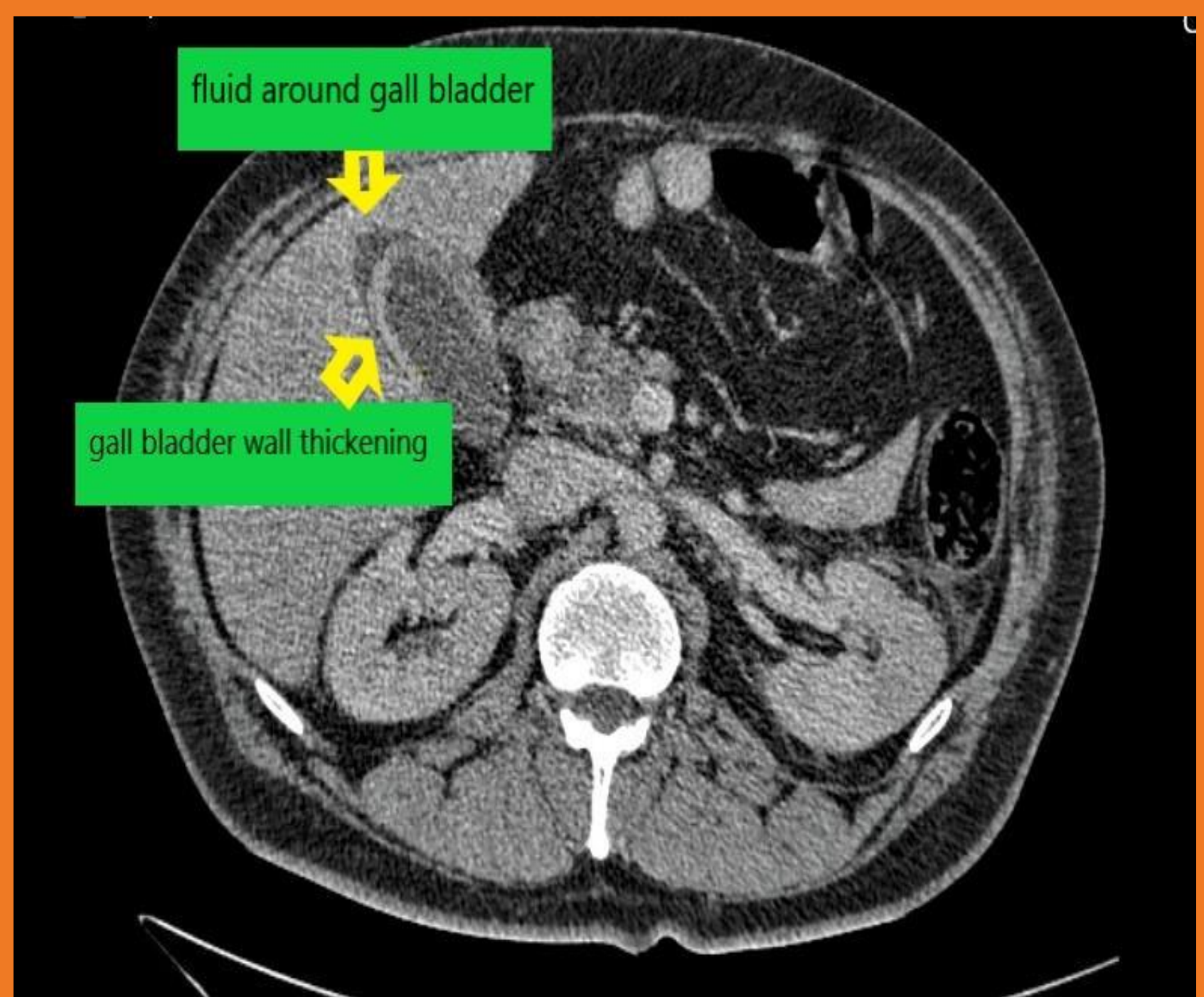
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Initial presentation and evaluation	Further action taken
<ul style="list-style-type: none"> ➤ Elderly male with 7 days of vomiting. ➤ Had hypotension and a low Glasgow coma score (GCS). ➤ Hemodynamic instability despite adequate fluid resuscitation and requiring a maximum dose of noradrenaline infusion. ➤ Intubated & required dobutamine was added alongside. ➤ Focussed echocardiogram- biventricular ventricular dysfunction. ➤ The above confirmed with formal echo 	<ul style="list-style-type: none"> ➤ Persistent hypotension ➤ Abdomen ultrasound -thickened gall bladder (GB) wall & measured 7millimetres ➤ Combination of abnormal liver function tests, thickened GB wall pointed towards the presence of Acute acalculous cholecystitis (AAC) ➤ Immediate CT abdomen- inflammation and collection around GB, confirming acalculous cholecystitis. ➤ Percutaneous drain insertion into the gall bladder. next 24 hours, ➤ Vasopressor and inotropic requirement were weaned. ➤ Day 4- the patient was hemodynamically stable. Extubated ➤ Transferred to the ward under the surgical team for further management.

Early diagnosis of Acalculous cholecystitis lead to early intervention & better outcome



Picture 1 – Ultrasound of Gall bladder- shows thickened walls



Picture 2- CT Abdomen- showing thickening of Gall bladder wall and fluid collection

Importance of AAC	Conclusion
<ul style="list-style-type: none"> ➤ AAC is a life-threatening condition associated with a high risk of necrosis and perforation compared to calculous disease¹. ➤ On ultrasound examination, a thickened gall bladder wall of more than 3.5 millimetres suggests the presence of cholecystitis. ➤ Difficult to diagnose and associated with high mortality (>30%)². 	<ul style="list-style-type: none"> ➤ Hemodynamic instability was due to a combination of both AAC and cardiogenic shock. ➤ Comprehensive scan helped us understand the aetiology ➤ Necessary management in a time-critical condition. ➤ A quick multi-site point of care ultrasound can be a simple, fast and life-saving procedure in intensive care.

References

1. Jones MW, Ferguson T. Acalculous Cholecystitis, www.ncbi.nlm.nih.gov/books/NBK459182/ (2021, accessed 22 August 2021)
2. Factor P and Saab S. Critical care management of patients with liver disease. In: Sanyal A, Boyer TD, Lindor KD, et al (eds). Zakim and Boyer's Hepatology. 7th ed. Philadelphia: Elsevier, 2018, pp.194-201.