

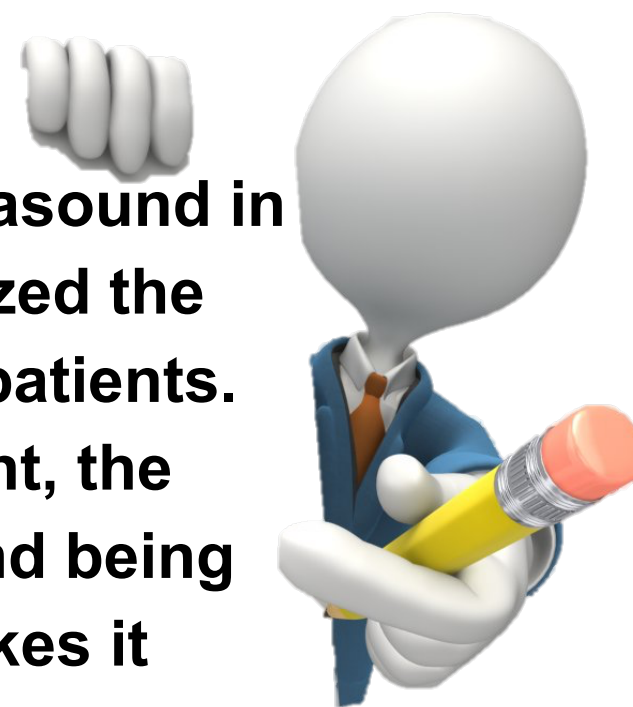
## BEDSIDE ECHOCARDIOGRAPHIC DIAGNOSIS OF PERICARDIAL EFFUSION IN A CRITICALLY ILL PATIENT AND PREVENTION OF CATASTROPHIC HEMODYNAMIC COMPROMISE

- Dr Kanika Arora, Dr Shashi Chandrashekaraiyah, Dr Alex Fonseca  
Critical Care Unit  
Lancashire Teaching Hospitals



### INTRODUCTION

In recent years, the use of ultrasound in critical care has revolutionized the bedside assessment of ICU patients. Though operator dependent, the advantage of repeatability and being relatively inexpensive makes it imperative for critical care physicians to stay updated with this modality.



### OBJECTIVE

Describe an incidental finding of pericardial effusion in a patient admitted with respiratory distress.



### MAIN BODY

✓ Young female admitted with shortness of breath and increase in oxygen requirements. Background of Cerebral Palsy, tracheostomised in 2009 post her scoliosis surgery.



✓ On admission, her 1st COVID swab was negative.



✓ A quick bedside FICE revealed a large circumferential pericardial effusion with fibrin strands. There was no haemodynamic compromise on admission, however the large pericardial effusion could have been an attributing factor to her severe respiratory distress.



✓ She progressively deteriorated hemodynamically, requiring intravenous fluids and vasopressor support. A definitive ECHO done by the cardiologist confirmed the findings of FICE. There was a rapid change in her condition post-pericardiocentesis.



✓ As per the institute protocol, a 2nd COVID swab was sent for her, which reported positive. Covid-19 RTPCR testing was not validated on pericardial fluid, hence was not undertaken.

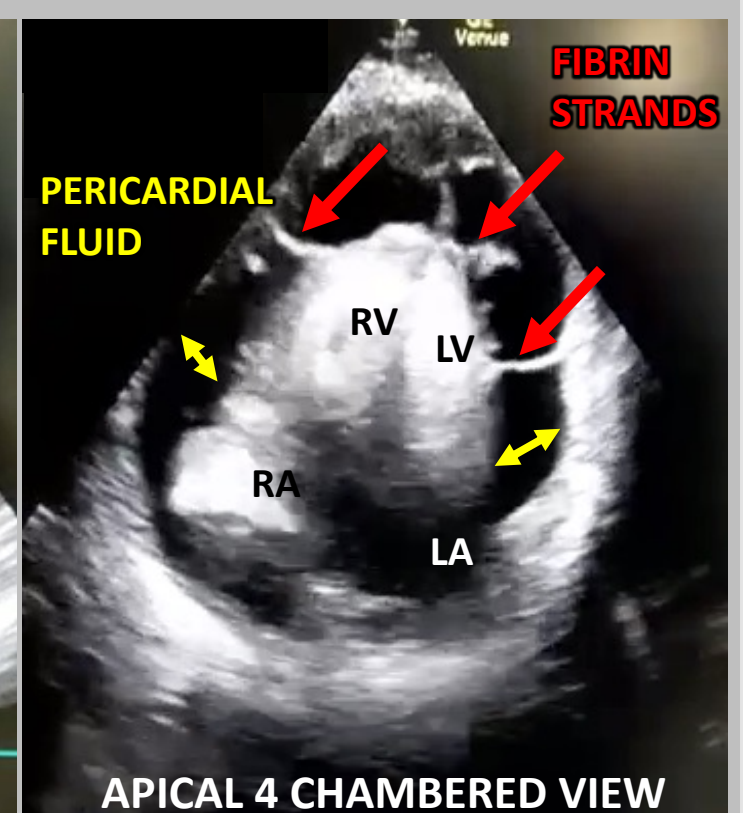
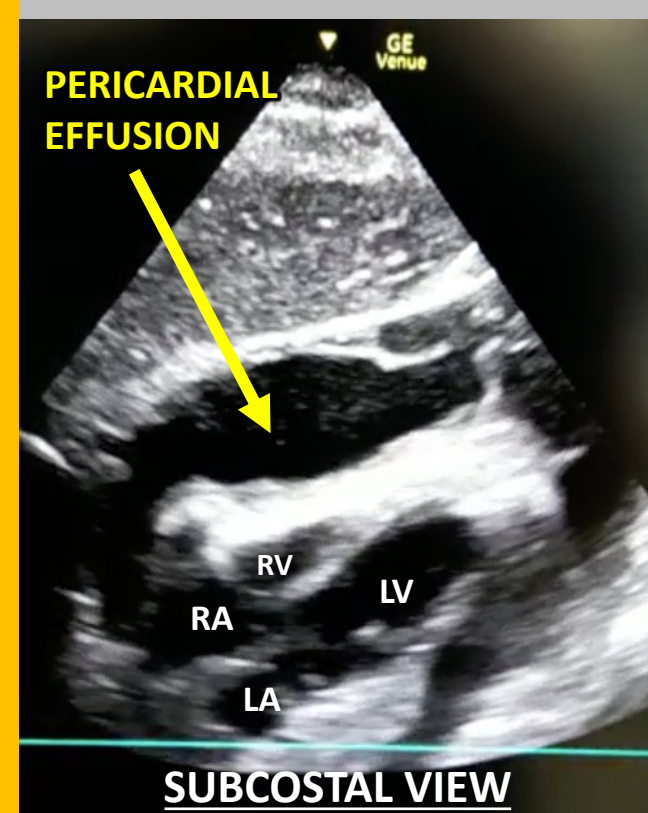


✓ The culture of pericardial fluid revealed staphylococcus aureus, but there was a high index of suspicion of Covid, bacterial pericarditis was unlikely



### FINDINGS

Pericardial effusion appears as an echo-free space between the 2 layers of pericardium. The following two echocardiographic images (Subcostal & Apical 4 chamber view) demonstrate pericardial effusion with fibrin strands.

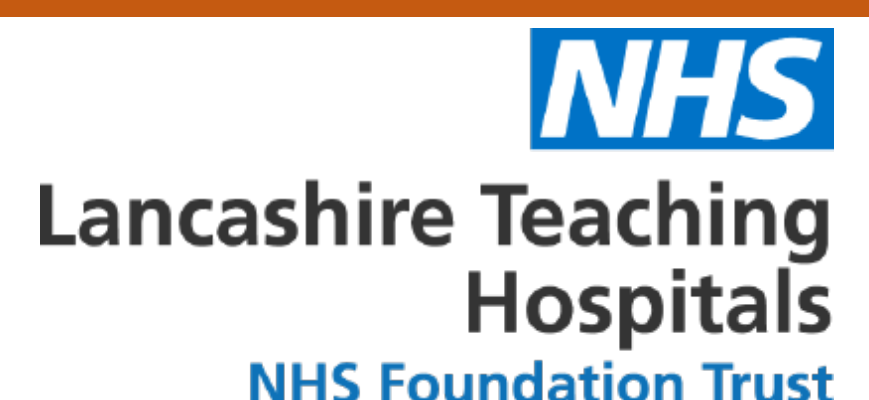


### CONCLUSION



**Bedside Echocardiography should be a standard investigation for all critical care patients.**

In view of quick bed side diagnosis with ultrasound, patient was able to survive this life-threatening condition and treatment was initiated promptly. If left undiagnosed based on clinical presentation, it could have been catastrophic for a completely treatable cause.



#### References:

1. François Sauer, Charlotte Dagrenat, Philippe Couppie, Gaelle Jochum, Pierre Leddet, Pericardial effusion in patients with COVID-19: case series, European Heart Journal - Case Reports, Volume 4, Issue FI1, October 2020, Pages 1–7
2. Hanson MG, Chan B. The role of point-of-care ultrasound in the diagnosis of pericardial effusion: a single academic center retrospective study. Ultrasound J. 2021 Feb 4;13(1):2