

# Malignant Cardiac Tamponade Mimicking Unstable Supraventricular Tachycardiac

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## INTRODUCTION

Cardiac tamponade is a critical emergency condition characterized by pericardiac fluid accumulation leading to impaired cardiac filling and hemodynamic collapse. In patient with advanced lung carcinoma, cardiac tamponade may present as unstable tachyarrhythmia. Early diagnosis and prompt pericardiocentesis remain the cornerstone of treatment .

## CASE DESCRIPTION

An elderly Malay man with advanced left lung carcinoma presented with worsening dyspnea for one day. Initial assessment revealed signs of respiratory distress, hypotension and supraventricular tachycardiac (HR :214bpm) and reduced air-entry and dullness over left lung. Synchronized cardioversion (100J) was attempted for unstable supraventricular tachycardiac but failed to restore hemodynamic stability, even after second attempt. Given persistent instability, point-of-care ultrasound was performed, revealing a large pericardiac effusion with classical features of cardiac tamponade-right atrial systolic collapse (s-swinging sign) and right ventricular diastolic collapse. Immediate ultrasound-guided pericardiocentesis was performed via parasternal approach, aspirating 200cc of hemorrhagic serous fluid. Post-procedure, the patient demonstrated clinical improvement with normalization of hemodynamic ( sinus rhythm with HR 90bpm, blood pressure:120/67mmHg) and respiratory distress resolution.

## DISCUSSION

This case highlight few importance points :

- 1) **Malignancy-related cardiac tamponade often presents insidiously** but can precipitate sudden decompensation resulting in unstable supraventricular tachycardia.
- 2) **Refractory unstable SVT warrants structural evaluation.** Failure to respond to cardioversion should raise suspicion of structural cause such as cardiac tamponade.
- 3) **Point-of-care ultrasound is crucial** to helps identify **tamponade signs ( RA systolic collapse and RV diastolic collapse, and swinging heart)** in unstable patients. (Figure 2&3)



Figure 1.Subcostal view showed pericardiac effusion.



Figure 2.Apical-4-chamber view showed RA systolic collapsed.



Figure 3.Apical-4-chamber view showed RV diastolic collapsed.

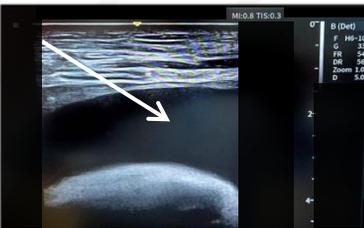


Figure 4. The white arrow indicates the needle entry trajectory during pericardiocentesis via parasternal approach.

## CONCLUSION

This case highlights the need to suspect cardiac tamponade in refractory unstable supraventricular tachycardia. Early use of point-of-care ultrasound and prompt pericardiocentesis are critical and can dramatically alter outcomes in the emergency setting.

## REFERENCES

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2. Alerhand, Stephen, and Jeremy M. Carter. "What Echocardiographic Findings Suggest a Pericardial Effusion Is Causing Tamponade?" *The American Journal of Emergency Medicine*, vol. 37, no. 2, Feb. 2019, pp. 321–26. DOI.org (Crossref), <https://doi.org/10.1016/j.ajem.2018.11.004>.

