

# **Role of Point of Care Ultrasound in Diagnosis of Symptomatic Pericardial Effusion: A Chart Review**

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## **Background**

Symptomatic pericardial effusions (PCE) present with non-specific complaints and are often missed on the initial physical exam. In extreme cases, misdiagnosis of a PCE can evolve into decompensated cardiac tamponade, a life-threatening obstructive shock. We intend to review the prevalence of PCE clinical features and adjunct investigatory findings, and how point of care ultrasound (POCUS) has altered diagnostic and therapeutic time intervals.

## **Methods**

In a retrospective chart review, we looked at all patients who underwent pericardiocentesis between 2002 and 2018 at an academic Canadian tertiary hospital. We reviewed the charts to determine the rate of presenting complaints, physical exam findings, x-ray and ECG features, time-to-diagnosis and pericardiocentesis, and how these were impacted by POCUS.

## **Results**

The most common presenting symptom for large PCE is dyspnea (64%) and the average SBP was 120 mmHg. 86% had an effusion > 1 cm, and 89% were circumferential with 64% having evidence of right atrial systolic collapse and 58% with early diastolic right ventricular collapse. The average time-to-diagnosis with POCUS was 5.9 hours compared to >12 hours with other imaging including departmental echocardiogram; and the average time-to-pericardiocentesis for those diagnosed with POCUS was 28 hours compared to > 48hours if the PCE was discovered by other imaging modalities.

## **Conclusion**

Symptomatic PCE presents with non-specific symptoms and findings. However, POCUS can expedite diagnostic and therapeutics for those presenting with symptomatic effusions.