

Category : **Cardiovascular: Monitoring**

A157 - Bedside diagnosis of right mediastinal shift using point of care ultrasound

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Introduction:

Mediastinal shift, especially a large one, can cause obstructive shock due to cardiac herniation or twisting of great vessels[1]. Early identification of mediastinal shift may help in initializing rapid therapy for reversal of shift to prevent significant hemodynamic compromise and cardiac arrest. We report two cases of right-sided mediastinal shift identified using Point of Care Ultrasound (POCUS) based on the location of parasternal cardiac window and probe direction of subcostal window.

Methods:

Case 1. A young adult had sudden hypotension on postoperative day 1 of right pneumonectomy. POCUS failed to obtain cardiac image with left parasternal cardiac window. On further interrogation, parasternal cardiac window was obtained in right second intercostal space. Subcostal cardiac view present towards right side instead of usual left side. This raised suspicion of significant mediastinal shift towards right causing obstructive shock, further supported by dilated inferior vena cava (IVC) and good left ventricular contractility ruling out hypovolemic or cardiogenic shock.

Case 2. Patient was admitted with febrile neutropenia and septic shock following cytotoxic chemotherapy for hemato-lymphoid malignancy. Routine POCUS evaluation indicated similar findings indicating mediastinal shift.

Results:

Right mediastinal shift was confirmed with urgent chest X rays (Figure 1). In first case, injection of air in the right pleural cavity through right ICD improved hemodynamic parameter. In second case, mucus plug obstructing right main bronchus was identified and removed with bronchoscopy causing opening up of the collapsed right lung.

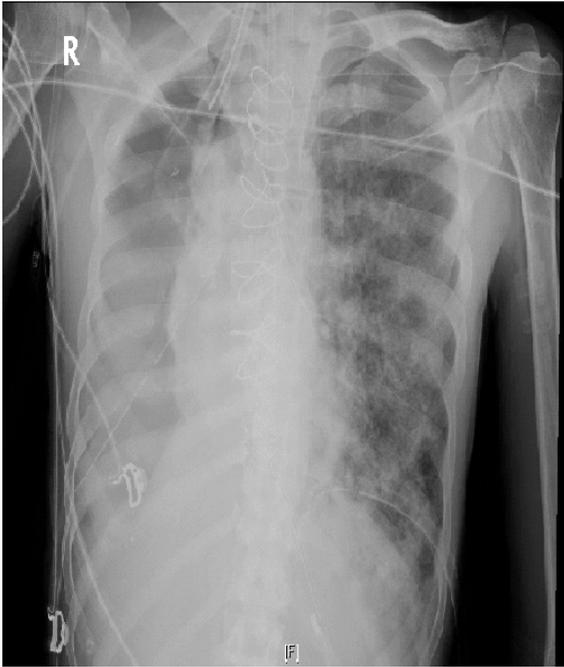
Conclusion:

Right mediastinal shift can be identified on POCUS examination by shifting of parasternal and subcostal cardiac window from left to right. This should prompt a search for cause of mediastinal shift and treatment

References:

Nechala, et al. (2006) Bronchial Obstruction Ca-Using Mediastinal Shift and Hemodynamic Compromise. The Annals of Thoracic Surgery

Image :



Case 1



Case 2

FIGURE 1 RIGHT MEDIASTINAL SHIFT