

A Pleural ‘Tamponade’!

Abhishek Samprathi¹, Garud S Chandan²

Received on: 13 February 2023; Accepted on: 10 March 2023; Published on: 03 May 2023

Keywords: Bedside ultrasound, Obstructive shock, Pleural effusion.

Journal of Acute Care (2022); 10.5005/jp-journals-10089-0044

CASE SUMMARY

A 58-year-old gentleman presented with breathlessness at rest for 5 days. He was drowsy, hypoxic, and hypotensive with cold peripheries, requiring vasopressors and invasive mechanical ventilation. Auscultation of the chest revealed decreased air entry over the right lung field. Chest X-ray showed a dense right-sided opacity suggestive of pleural effusion. A 12-lead electrocardiogram was unremarkable. A bedside point-of-care ultrasound (POCUS) showed a massive right-sided pleural effusion mechanically compressing the right atrium (Fig. 1).

Pleural tapping was performed, followed by intercostal drain (ICD) insertion. Hemodynamic status improved significantly after ICD insertion. This was attributed to the relief of mechanical pressure on the right atrium, improving the preload and cardiac output. Vasopressor infusions were gradually weaned off and the patient was discharged from Intensive Care Unit to the ward.

DISCUSSION

Large pleural collections causing adverse cardiovascular effects have been reported.^{1,2} The mechanism of right-atrial collapse

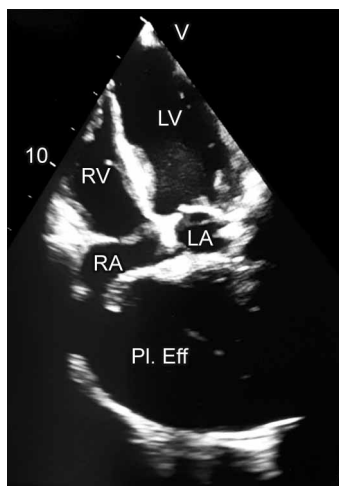


Fig. 1: Transthoracic echocardiographic image showing apical 4-chamber view with large pleural effusion compressing the atria. RA, right atrium; RV, right ventricle; LA, left atrium; LV, left ventricle; PI Eff, pleural effusion

¹Department of Critical Care Medicine, Narayana Institute of Cardiac Sciences, Bengaluru, Karnataka, India

²Department of Critical Care Medicine, Fortis Hospital, Bengaluru, Karnataka, India

Corresponding Author: Abhishek Samprathi, Department of Critical Care Medicine, Narayana Institute of Cardiac Sciences, Bengaluru, Karnataka, India, Phone: +91 8056738436, e-mail: abhisamprathi@gmail.com

How to cite this article: Samprathi A, Chandan GS. “A Pleural Tamponade”. *J Acute Care* 2022;1(3):162–162.

Source of support: Nil

Conflict of interest: None

is related to the positive mechanical intrathoracic pressure exerted by the pleural collection. The significant improvement of hemodynamic parameters after ICD insertion implied that the shock was obstructive. Differential diagnosis of obstructive shock includes massive pulmonary embolism, cardiac tamponade, and tension pneumothorax. Uncommon causes include constrictive pericarditis and intrathoracic tumors. Massive pleural collections causing obstructive shock though rare are easily reversible with therapeutic drainage. This report emphasizes the role of bedside POCUS in the assessment of shock, which is often diagnostic and potentially life-saving.

ORCID

Abhishek Samprathi <https://orcid.org/0000-0001-8525-2482>

Garud S Chandan <https://orcid.org/0000-0002-9809-6797>

REFERENCES

1. Pifarré R, Martínez C, Rosell A. Shock and cardiorespiratory arrest secondary to massive pleural effusion. *Arch Bronconeumol* 1997;33(11):594–595. DOI: 10.1016/s0300-2896(15)30520-2
2. Habib R, Ahmed F, Khattak SK, et al. Massive pleural effusion: a rare cause of an obstructive shock. *Isra Med J* 2020;12(3):166–167.