

IMAGING IN INTENSIVE CARE MEDICINE



Worsening hypoxemia with mechanical ventilation in posttraumatic ventricular septal defect

Marco Zuin¹, Gianluca Rigatelli², Luisella Fogato⁴ and Loris Roncon^{3,5*}

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A 40-year-old woman presented with cardiogenic shock (CS) after having an accidental axial fall from a height of 3 m. Transthoracic echocardiography (TTE) showed a ventricular septal defect (VSD; Fig. 1a) of approximately 1.9 cm with a moderate left-to-right shunt flow across the

perimembranous region (Fig. 1b) of the ventricular septum associated with severe mitral regurgitation. Mechanical ventilation with positive end-expiratory pressure (PEEP), presumably through an increase of right ventricular (RV) afterload, induced a severe shunt making the

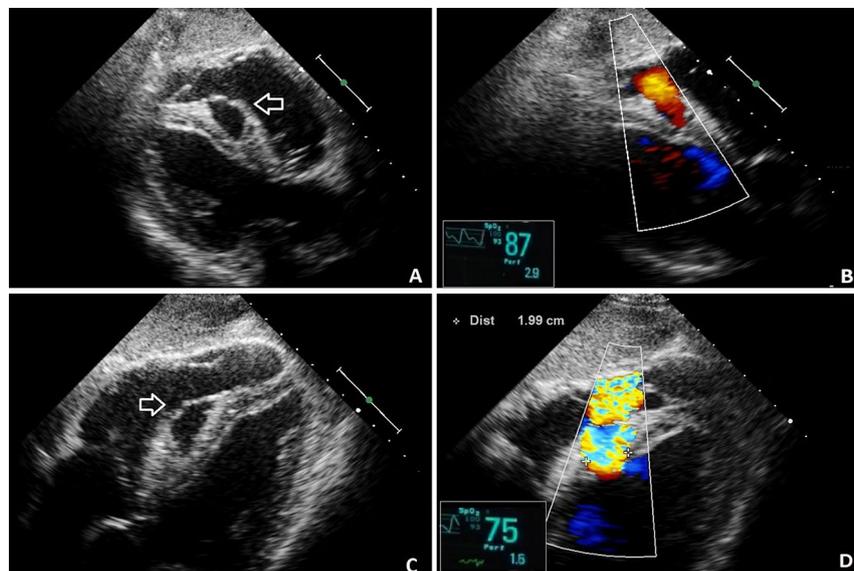


Fig. 1 Transthoracic echocardiogram before intubation and mechanical ventilation showing a perimembranous ventricular septal defect (a) and a moderate left-to-right shunting (b). Subcostal view after start of mechanical ventilation with PEEP (c) showing a worsened shunt (d)

*Correspondence: lorisoncon@gmail.com

⁵ Department of Cardiology, Santa Maria della Misericordia Hospital, Viale Tre Martiri 140, 45100 Rovigo, Italy

Full author information is available at the end of the article

The authors Marco Zuin and Gianluca Rigatelli contributed equally to the manuscript.

hypoxaemia more severe and refractory (Fig. 1c, d). Considering the presence of CS and severe respiratory failure, surgical closure of the VSD and repair of the incompetent mitral valve were performed allowing a significant improvement in both gas exchange and hemodynamic profile.

Author details

¹ Section of Internal and Cardiopulmonary Medicine, Department of Medical Science, University of Ferrara, Ferrara, Italy. ² Section of Cardiovascular Diagnosis and Endoluminal Interventions, Rovigo General Hospital, Rovigo, Italy. ³ Department of Cardiology, Rovigo General Hospital, Rovigo, Italy.

⁴ Department of General Surgery, Rovigo General Hospital, Rovigo, Italy.

⁵ Department of Cardiology, Santa Maria della Misericordia Hospital, Viale Tre Martiri 140, 45100 Rovigo, Italy.

Compliance with ethical standards**Conflicts of interest**

None of the authors have a conflict of interest to declare.

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