Platypnea-orthodeoxia syndrome (POS) is characterized by hypoxemia in the upright position. In patients with vertebral fractures, the postural changes strongly distort the conformation of interatrial communication, resulting in increased right-to-left shunting.\(^1\)

A 78-year-old hypertensive woman with a history of pulmonary fibrosis and vertebral fractures developed dyspnea. Oxygen saturation in room air decreased from 95% in the supine position to 80% in the upright position. Transesophageal echocardiography with agitated saline microbubbles showed right-to-left shunting through the patent foramen ovale (PFO) in the upright position. Given that it was unclear whether the main cause of hypoxemia was the shunting, repeated pulmonary perfusion scintigraphy with \(^{99}\)mTc-macroaggregated albumin was carried out to assess the amount of shunting. The shunt ratio in the supine position was 9.9% (cut-off for significant right-to-left shunting, >10%; Figure A). When the isotope was injected in the upright position, the ratio increased to 24.3% (Figure B). Therefore, we performed PFO closure using the Amplatzer\textsuperscript{TM} Multi-Fenestrated Septal Occluder – “Cribriform”. On postoperative scintigraphy, the ratio decreased to 13.9% in the upright position (Figure C), and the symptom was markedly relieved.

Therefore, pulmonary perfusion scintigraphy could be a useful modality to identify POS and confirm the effectiveness of shunt closure.

Acknowledgments / Disclosures

None.

References
