Unmasking Hypoxia: A Rare Case of Platypnea-Orthodeoxia Syndrome Requiring Intubation

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INTRODUCTION

Platypnea-Orthodeoxia syndrome (POS) is rare clinical entity that is characterized by positional dyspnea and hypoxemia. First described in the mid-20th century, POS is often underdiagnosed due to its subtle and variable presentation. Literature has described cases of Patent Foramen Ovale (PFO) exacerbating shunting leading to worsening hypoxia, however we describe a case of POS leading to severe hypoxia causing endotracheal intubation.

CASE REPORT

Introduction:

A 68-year-old woman with asthma, hypertension, and recent 50-lb unintentional weight loss presented with progressive dyspnea and severe hypoxia requiring intubation. Initial workup including infectious, hepatic, and pulmonary evaluations was unremarkable.

Findings from further evaluation:

After extubation, she required 15 L/min via non-rebreather. TTE echocardiogram with bubble study revealed significant right-to-left shunting. Right heart catheterization showed normal intracardiac filling pressures. Intracardiac echocardiography identified a typical PFO with an adjacent 7–8 mm inferior secundum ASD. Color Doppler demonstrated high-velocity flow directed across the defects.

Intervention

She underwent successful transcatheter closure using a 30 mm Gore Cardioform septal occluder. Oxygenation improved immediately, with requirements decreasing from 15 L/min to 2 L/min nasal cannula. She was discharged on room air with aspirin 81 mg daily and full symptomatic recovery.

RESULTS

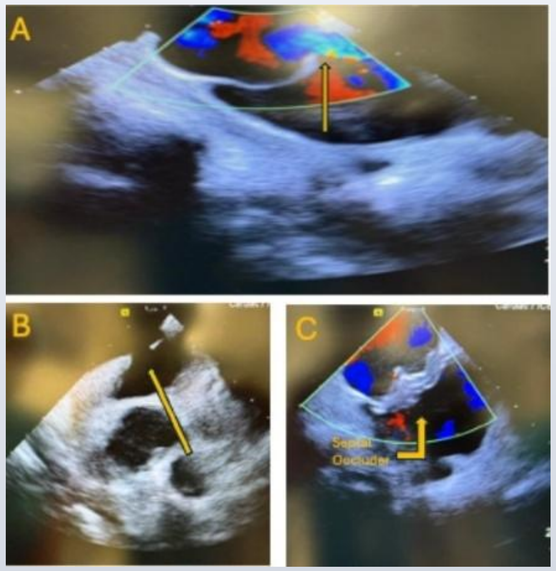

Figure A: Intracardiac ECHO

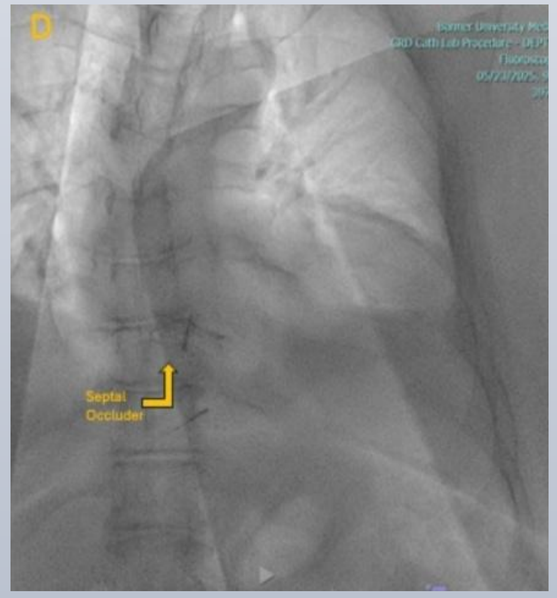

Figure B: Intra-Septal Occluder

DISCUSSION

POS is an uncommon and often under-recognized disorder characterized by positional dyspnea and drop in PaO2 > 4 mmHg or SaO2 > 5% in the upright posture, which improves when supine. While there are many potential mechanisms for POS, a PFO with right-to-left intracardiac shunting is the most commonly recognized factor.

Our patient exhibited an extreme presentation of cardiac shunting which ultimately resulted in intubation. Substantial weight reduction can alter the atrial septal positioning and shift intracardiac anatomy. This structural remodeling aligns inferior vena cava flood flow with preferential streaming across the atrial septum, thereby exacerbating hypoxia from right-to-left shunting.

This may have contributed to the rare and severe presentation necessitating mechanical ventilation, an outcome rarely reported in POS literature.

Conclusion

POS should be considered in patients with unexplained, positional hypoxia. This case highlights a severe presentation and raises the hypothesis that significant weight loss may exacerbate intracardiac shunting. With rising GLP-1 use, further research into this association is needed.

RESOURCES/REFERENCES

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