

Beyond Congenital Heart Disease: Pericardial Effusion Secondary to Influenza A in an Infant with Trisomy 21

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1. Introduction

- Congenital heart disease affects approximately 40–50% of individuals with trisomy 21.
- Diagnostic overshadowing may occur when cardiovascular instability is automatically attributed to structural heart disease.
- Influenza-associated pericardial effusion is an uncommon but potentially life-threatening pediatric complication.

3. Case summary

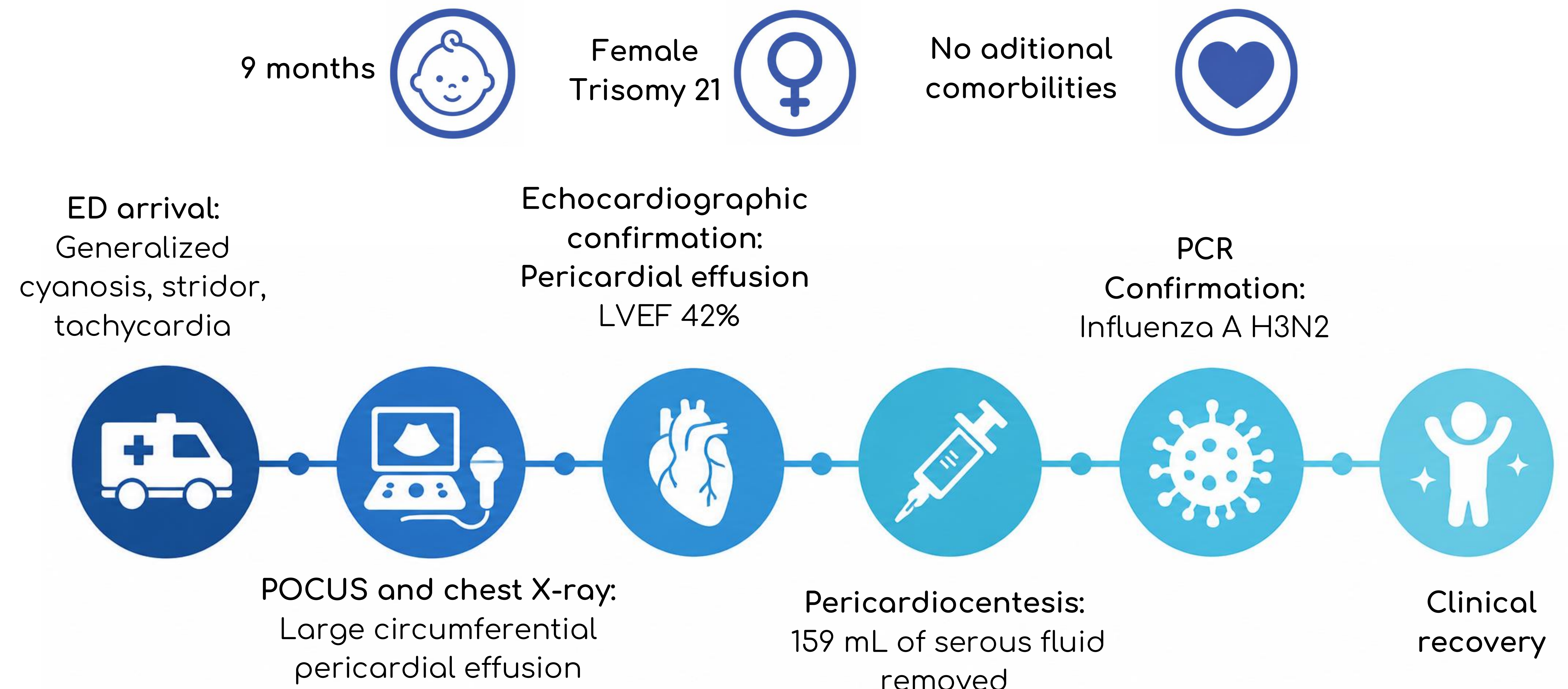
Characteristic	Description
Presentation	Cyanosis, stridor, tachycardia, shock
POCUS	Pericardial effusion 19 × 17.5 mm
LVEF	42%
Chest X-ray	Cardiomegaly
proBNP	4180 ng/mL
Viral PCR	Influenza A (H3N2)
Intervention	Ultrasound-guided pericardiocentesis
Fluid removed	159 mL
Outcome	Full recovery

4. Discussion

Influenza-associated pericardial effusion is rare in children. Cardiac tamponade may present without classic clinical findings.

Diagnostic overshadowing may occur when clinical deterioration in children with trisomy 21 is attributed primarily to congenital heart disease. In this case, POCUS rapidly identified an alternative, potentially life-threatening diagnosis and guided timely intervention.

2. Clinical course



5. Clinical relevance

- Avoid diagnostic overshadowing in patients with trisomy 21.
- Not all hemodynamic deterioration is related to congenital heart disease.
- Influenza A may cause severe pericardial effusion.
- Early POCUS can be lifesaving.

6. References

- Ito T. et. al. All cardiac abnormalities in patients with influenza. Intern Med. 2018;57(3):305–10.
- Vergara-Uzcátegui CE, et. al. Derrame pericárdico en paciente pediátrico con influenza A H3N2. Rev Mex Pediatr. 2019;86(4):412–6

This case highlights the risk of diagnostic overshadowing and the critical role of point-of-care ultrasound in identifying life-threatening complications in children with trisomy 21.