

## Diagnostic pitfalls and challenges in the diagnosis of non-calcified constrictive pericarditis: a case report

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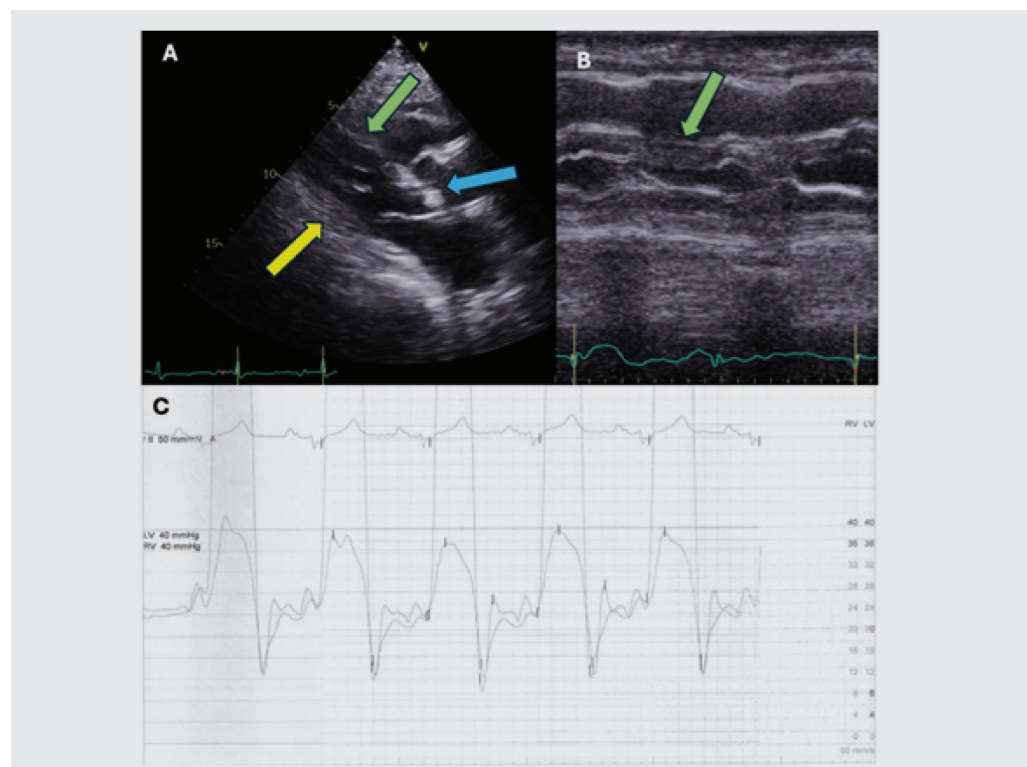
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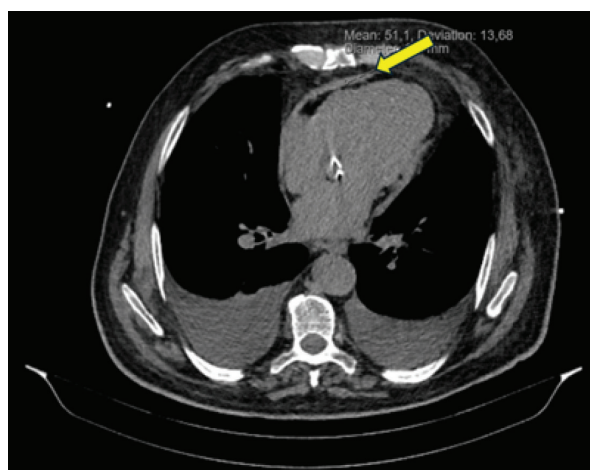
**Introduction:** The purpose of this case report is to highlight the diagnostic pitfalls in a patient with recurrent Emergency Room (ER) visits presenting with signs of heart failure (HF) due to non-calcified pericardial constriction (ncPC).

**Case report:** 78-year-old man with a history of arterial hypertension presented in February 2024 to the ER with fever, chills, perineal pain and dysuria. He was treated for urosepsis (*S. aureus*), prostatic abscess and aortic valve (AV) endocarditis which was diagnosed using focused ultrasound (FoCUS) in



**FIGURE 1.** Signs of non-calcified constrictive pericarditis: A) parasternal long axis view B) M-mode showing thickened pericardium (yellow arrow), severe aortic calcification (blue arrow), inspiratory leftward shift of the interventricular septum (green arrow); C) "square root sign" during heart catheterization.

the ER. Using eyeballing method a mild aortic stenosis (AS), normal left ventricle ejection fraction (LVEF), normal pericardium and inferior vena cava (VCI) were described. The patient was treated with antibiotics for 6 weeks. Since April 2025 the patient was examined five times in the ER with symptoms of right-sided HF, bilateral leg edema, ascites, dyspnea and progressive decline of renal function. In April and May transthoracic echocardiography (TTE) was not performed due to convincing symptoms. Pulmonary embolism and congestion were ruled out using CT but a small pericardial effusion (PE) was described. No signs of malignancy were found, and thyroid function was normal. In June, a FoCUS revealed LVEF 35%, no PE while the AV was not described. Each subsequent ER visit and management relied on the previous FoCUS resulting in continuous diuretic therapy uptitration and the patient was repeatedly discharged from the ER. The patient presented to our ER in August 2025 with syncope, in normal sinus rhythm, hypotensive with ascites (4.5 L were evacuated). Comprehensive TTE revealed severe AS, preserved LVEF and thickened pericardium no PE with typical signs of constriction also proven by right heart catheterization (**Figure 1**). Cardiac CT confirmed diffuse thickening of the pericardium without calcifications, consistent with ncPC (**Figure 2**). Patient is referred for AV replacement and pericardiectomy.



**FIGURE 2. A computed tomography scan of the heart showing non-calcified thickened pericardium.**

**Conclusion:** The diagnosis of ncPC is often challenging and may be established only after irreversible organ damage has occurred. Even when one diagnosis appears likely, additional causes must be considered.<sup>1-3</sup> Although well established, FoCUS should be used and interpreted with caution. Dependence on partially interpreted findings led to suboptimal and delayed therapeutic management.

#### LITERATURE

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