

Atrial fibrillation as first presentation of constrictive pericarditis

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Introduction: Atrial fibrillation (AF) and other cardiac arrhythmias can be provoked by diverse pathologies including pericarditis¹. Pericarditis can be caused by various causes and clinical presentation varies depending on the underlying etiology and time of presentation¹⁻³. Pharmacological treatment usually leads to symptom resolution, but still the possibility of constrictive hemodynamic remains.

Case series: 52-year-old male presented with right heart failure and AF. Three years earlier he had stroke due to left internal carotid artery dissection and AF was diagnosed as well as calcification of pericardium of unknown etiology. As the patient had no signs of heart failure, the heart team opted for pharmacological treatment at that time. On a follow up, regression of calcification did not occur even after treatment with non-steroidal anti-inflammatory drugs, colchicine, steroids and rhythm control of AF failed. Additionally, echocardiography revealed constrictive hemodynamic with septal bounce with a respiratory dependent septal shift to the right as a result of interventricular interdependence and severe calcification of the pericardium in front of both ventricles. Right heart catheterization confirmed the diagnosis. Computed tomography (CT) exposed massive calcification of the pericardium that led to pericardiectomy as the only treatment available (**Figure 1**). The second case is 45-year-old male who was admitted with symptoms of right heart failure and AF. After prior AF ablation treatment, sinus rhythm was maintained shortly. Echocardiography once again revealed signs of constrictive hemodynamic. CT unveiled severe calcification of pericardium in front of the right ventricle with pericardial effusion. Surgical pericardiectomy was indicated for right heart failure relief (**Figure 2**).

Conclusion: Advanced constrictive pericarditis at the time of diagnosis was the reason pharmacotherapy and ablation treatment failed for AF. Possibly, constrictive hemodynamic was the initial trigger for AF that further accelerated heart failure. Multidisciplinary approach to pericardial disease and multimodality imaging is still the cornerstone of treatment, but echocardiography remains superior imaging modality in monitoring hemodynamic, best complemented with cardiac CT and right heart catheterization.

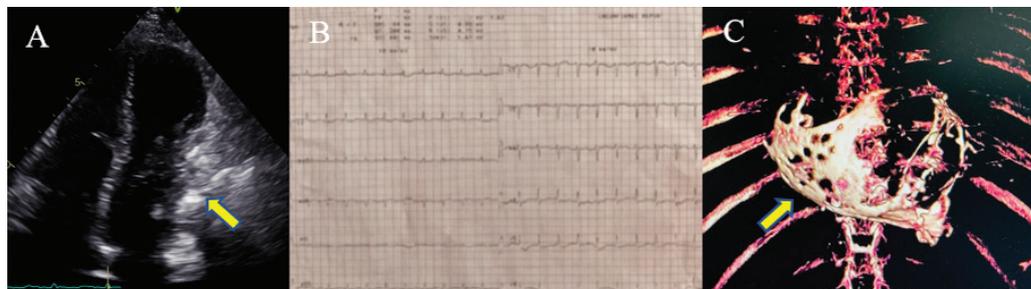
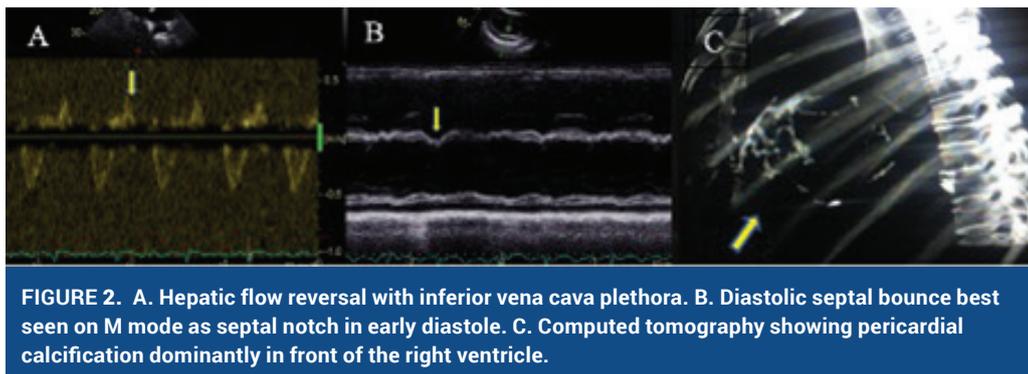


FIGURE 1. A. Pericardial calcification and shadowing due to calcium. B. Electrocardiogram showing atrial fibrillation and microvoltage. C. Cardiac computed tomography showing massive calcification.

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