

## Constrictive pericarditis complicated with thromboembolic incidents

Blanka Glavaš Konja\*

Vlatka Rešković  
Lukšić

Joško Bulum

Martina Lovrić Benčić

Zvonimir Ostojić

Aleksander Ernst

Jadranka Šeparović  
Hanževački

University of Zagreb School of  
Medicine, University Hospital  
Centre Zagreb, Zagreb, Croatia

**KEYWORDS:** constrictive pericarditis, thrombosis, embolism, thrombophilia, atrial fibrillation.

**CITATION:** *Cardiol Croat.* 2015;10(3-4):72-73. | DOI: <http://dx.doi.org/10.15836/ccar.2015.72>

**ORCID:** Blanka Glavaš Konja, <http://orcid.org/0000-0003-1134-4856> •

Vlatka Rešković Lukšić, <http://orcid.org/0000-0002-4721-3236> • Joško Bulum, <http://orcid.org/0000-0002-1482-6503> •

Martina Lovrić Benčić, <http://orcid.org/0000-0001-8446-6120> • Zvonimir Ostojić, <http://orcid.org/0000-0003-1762-9270> •

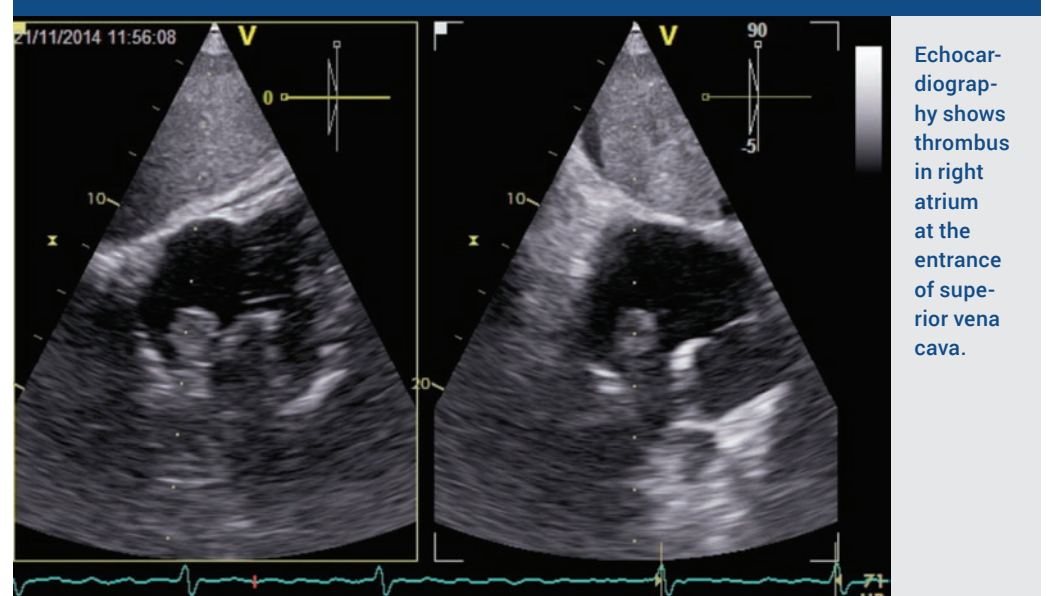
Aleksander Ernst, <http://orcid.org/0000-0003-0742-3359> • Jadranka Šeparović Hanževački, <http://orcid.org/0000-0002-3437-6407>

\***ADDRESS FOR CORRESPONDENCE:** Blanka Glavaš Konja, Klinički bolnički centar Zagreb, Kišpatičeva 12, HR-10000 Zagreb, Croatia. Phone: +385-98-810202. E-mail: [blanka.glavas@gmail.com](mailto:blanka.glavas@gmail.com)

**BACKGROUND:** Constrictive pericarditis is a rare disease but can cause diagnostic problems. The diagnosis can be even more difficult if combined by pulmonary embolism<sup>1,2</sup>. We present the case of constrictive pericarditis complicated with several thromboembolic incidents.

**CASE PRESENTATION:** A 58-year-old was admitted to Clinical Hospital with symptoms of dyspnoea, orthopnoea, fatigue and signs of dominantly right heart congestion. As a 6-year old child he had left sided pleuritis. Later, he was working at shipyard in the region close to asbestos factory. Four years before admission he was accidentally diagnosed atrial fibrillation. Anticoagulant therapy with dabigatran was started. Electrocardioversion was done successfully for three times and finally radiofrequency ablation had been planned when patient felt breathless suddenly. He was admitted to local hospital where thoracic MSCT showed bilateral incapsulated pleural effusion, bronchial deformities and a small pericardial effusion that measured 0.7 cm. Right sided pneumonia was suspected so patient was treated with antibiotics but with no benefit. MSCT pulmonary angiography did not show pulmonary embolism, but verified worsening of pericardial effusion, hepatic congestion and ascites. PET CT showed no pathology. Fiber optic bronchoscopy found only nonspecific mucopurulent substrate. Quantiferon test was negative. Dyspnoea was worsening, as well as pericardial effusion. Anticoagulant therapy had been stopped for a while. Echocardiography examination found dilatation of both atria with an indirect signs of high right atrial pressure and constrictive hemodynamic and thrombus in right atrium (**Figure 1**). Control CT showed multiple thrombotic masses in right atrium, segmental pulmonary arteries, left atrial auricular. Doppler did not show peripheral vein thrombosis. Anticoagulant therapy was started again. Searching for thrombophilia found normal FV, FII, MTHFR (CC gene type), polymorphism (4G/5G) for PAI-I, and insertion ACE genotype. Polyserositis was suspected so corticosteroid was added to therapy. Heart MR confirmed constrictive pericarditis and made suspicious of thrombotic masses in both atria. Meanwhile patient had another thromboembolic episode; inferior and superior caval vein thrombosis, hepatic and renal veins thrombosis, and right iliac artery embolism. Iliac artery thrombendarterectomy was successfully done. Patient was transferred to the tertiary hospital for the diagnostic confirmation of constrictive pericarditis.

FIGURE 1.

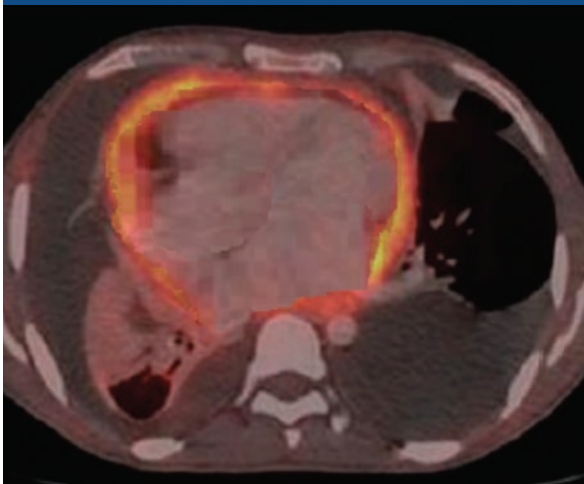


RECEIVED:  
April 15, 2015

ACCEPTED:  
April 20, 2015



**FIGURE 2.**



**PET CT.**

At the admission, patient was afebrile, cachectic, tachypneic, orthopneic and hypotensive with signs of hepatomegaly, ascites, peripheral oedema and jugular distension. Decubital ulcer started to form at sacrum. Fatigue and exhaustion was in progression. As PET CT showed intensively metabolically active pericardial region, antituberculous therapy was started despite of negative Quantiferone test with partial benefit (**Figure 2**). Heart catheterization was performed, but typically four chamber equalization of pressure was not confirmed (**Figure 3**). Pulmonary artery pressure was normal, and right atrial pressure was high. Patient was re-evaluated and transferred to cardiac surgery department for pericardiectomy. Procedure risk was classified as very high.

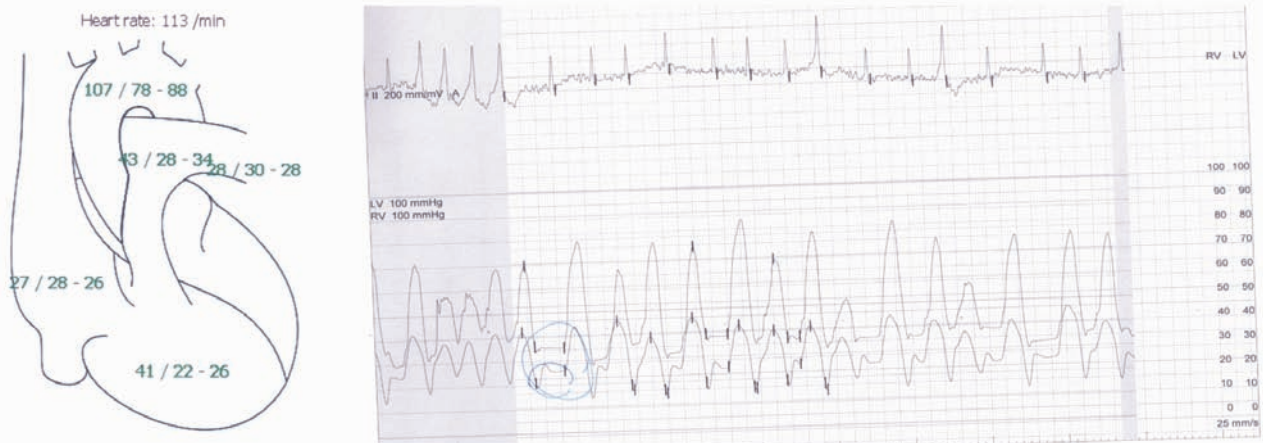
Pericardiectomy has been done partially because of heavily adherent thick pericardium. Rehabilitation procedure was started, and clinically status of the patient was improving gradually. Samples of pericardium were sent to pathology department, but the histological examination did not show specific inflammation. Antituberculous therapy was stopped. Patient was discharged in improved condition, without dyspnoea or oedema.

**CONCLUSION:** The diagnosis of constrictive pericarditis is difficult. The cardiac catheterization with intracavitary pressure curves analysis is considered as a gold standard. Typically equalization within 5 mmHg range difference of end-diastolic pressure in all chambers has low sensitivity and specificity. The diastolic curve profile in both ventricles that represents dip-and-plateau pattern is not present always<sup>3,4</sup>.

Right atrial thrombus associated with pericarditis is very rare.<sup>5</sup> Thrombosis of other vascular structures associated with pericarditis is even more rare. Cases of chronic inflammatory diseases as Behçet's disease or hematologic malignant diseases have been described.<sup>6</sup> We have presented the case of idiopathic constrictive pericarditis combined with thrombophilia and atrial fibrillation. Every of these conditions predispose to thrombi formation. Pericardiectomy followed by anticoagulant therapy is optimal treatment option.<sup>7</sup>

**CONFLICTS OF INTEREST:** The authors have no conflicts of interest to declare.

**FIGURE 3.**



**Ventricular pressures with left ventricular dip-and-plateau pattern.**

**LITERATURE**

1. Little WC, Freeman GL. Pericardial disease. *Circulation*. 2006;113:1622-32. DOI: <http://dx.doi.org/10.1161/CIRCULATIONAHA.105.561514>
2. Altemimi HA, Altaf SY, James RK, Nata RN, Kumar EB, Codispoti M. A difficult diagnosis - constrictive pericarditis and its treatment: a case report. *Cases J*. 2009 Nov 28;2:9105. DOI: <http://dx.doi.org/10.1186/1757-1626-2-9105>
3. LeWinter MM. Pericardial diseases. In: Libby P, Bonow RO, Mann DL, Zipes DP, Braunwald E, editors. *Braunwald's heart disease: a textbook of cardiovascular medicine*. 8th ed. Philadelphia: Saunders Elsevier; 2008. p. 1843.
4. Talreja DR, Nishimura RA, Oh JK, Holmes DR. Constrictive pericarditis in the modern era: novel criteria for diagnosis in the cardiac catheterization laboratory. *J Am Coll Cardiol*. 2008;51(3):315-9. DOI: <http://dx.doi.org/10.1016/j.jacc.2007.09.039>
5. Toda R, Yuda T, Nishida T, Hitoshi T, Akira T. Right atrial mural thrombus associated with pericarditis. *Ann Thorac Surg*. 1996;62:1505-6. DOI: [http://dx.doi.org/10.1016/0003-4975\(96\)00399-2](http://dx.doi.org/10.1016/0003-4975(96)00399-2)
6. Kwon CM, Lee SH, Kim JH, Lee KH, Kim HD, Hong YH, et al. A case of Behçet's disease with pericarditis, thrombotic thrombocytopenic purpura, deep vein thrombosis and coronary artery pseudo aneurysm. *Korean J Intern Med*. 2006;21(1):50-6. DOI: <http://dx.doi.org/10.3904/kjim.2006.21.1.50>
7. Bertog SC, Thambidorai SK, Parakh K, Schoenhagen P, Ozduran V, Houghtaling PL, et al. Constrictive pericarditis: etiology and cause-specific survival after pericardiectomy. *J Am Coll Cardiol*. 2004;43(8):1445-52. DOI: <http://dx.doi.org/10.1016/j.jacc.2003.11.048>