

Purulent Pericarditis Complicated by Cardiac Tamponade Secondary to a Hydatid Cyst-Associated Hepatic Abscess

To the Editor:

Purulent pericarditis is a rarely-seen clinical entity characterized by a purulent pericardial effusion, and which is generally produced by the extension of a nearby bacterial infection locus or by blood dissemination. Primary infection is rare.¹

The clinical profile is very severe and tends to progress to cardiac tamponade² or else it is the first clinical manifestation.

We present the case of an 81 year old female patient with no relevant medical history who was admitted with the diagnosis of heart failure triggered by a respiratory infection and with a non-specific condition of discomfort and weakness that had been developing over 1 month, and dyspnea with effort, which progressed to dyspnea at rest, had developed in the days before she was admitted. She experienced

occasional unproductive coughing and had no measurable fever.

Laboratory tests showed: hemoglobin 11.9 g/dL, haematocrit 36.8%, and leukocytosis, with $16.8 \times 10^9/L$ (3% band neutrophils), 705×10^9 platelets/L, and fibrinogen, 464 mg/dL. Thoracic radiography showed an enlarged heart with a slight redistribution in both bases. The ECG showed low QRS voltage and diffuse T-wave flattening.

Twenty-four hours later, she had deteriorated clinically and showed clinical and hemodynamic signs of cardiac tamponade, hypertension, pulsus paradoxus, and high venous pressure data.

A transthoracic echocardiogram was performed, which confirmed the severe pericardial effusion and the data reflecting cardiac tamponade with collapsed right cavities.

After several failed attempts to perform echocardiogram-guided pericardiocentesis using the subxiphoid approach, which served to extract a small amount of purulent-looking matter but did not confirm its location in the pericardial cavity, we observed a left-side submammary mass extending caudally toward the abdomen. We then ran a thoraco-abdominal CT scan, and it revealed a large cystic lesion on the left hepatic lobe which extended to the pericardium (Figure).

The surgeon then performed another evacuation pericardiocentesis guided through the left parasternal approach and extracted 1000 mL of purulent matter. An emergency open laparotomy was then performed, revealing the abscessed hydatid liver cyst destroying the diaphragm and communicating with the pericardium.

After draining, a pericystectomy was performed and the pericardium was cleansed.



Figure 1. Thoraco-abdominal computerised tomography. Frame 1: image of hepatic abscess (arrow B) extending toward the extrathoracic region along the subcutaneous plane (arrow A); frame 2, an image of severe pericardial effusion.

Staphylococcus epidermidis was detected in the haemocultures and cultures of the pericardial matter.

Subsequent progress was favourable, and the patient finished treatment with antibiotics and with albendazol for the hydatidosis.

The case was interpreted as an abscessed hydatid cyst that extended to the pericardium, causing purulent pericarditis, with the cardiac tamponade as its principal symptom.

Purulent pericarditis is an entity with severe symptoms that can initially be attributed to a basic infectious disease; an echocardiogram must be taken as early as possible if pericardial involvement is suspected in patients with an at-risk infection locus, since the profile can evolve quickly to become a critical situation.¹

The pericardium is usually affected due to extension from an adjacent locus (pneumonia or abdominal abscess),¹ and the most commonly implicated microorganisms are *Staphylococcus aureus*, *Haemophilus influenzae*, *Neisseria meningitidis*, and *Streptococcus pneumoniae*; less commonly, we find enteric gram-negative bacilli, *Pseudomonas aeruginosa*, *Salmonella*, anaerobic bacteria, and fungal agents.³

Diagnosis is based on the extraction of purulent pericardial matter with exudate characteristics, rich in polymorphonuclear leukocytes, and lactate dehydrogenase, and poor in glucose. A Gram stain must be performed and we must obtain haematocrit, biochemistry, and cytology data and cultures for ordinary microorganisms, anaerobic bacterial, and fungi.⁴

Echocardiography allows us to evaluate signs of cardiac tamponade and, more importantly, carry out guided pericardiocentesis (therapeutic and diagnostic).⁴

Treatment requires surgical drainage of the pericardial matter and antibiotic treatment according to the antibiogram during 4 to 6 weeks.⁴

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