

中文題目：腹膜透析病患之出血性心包膜填塞個案報告

英文題目：A Case Report of Hemorrhagic Pericardial Tamponade in a Peritoneal Dialysis Patient

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Introduction

End-stage renal disease (ESRD) is a common clinical comorbidity with rising prevalence, and a growing incidence of complications from chronic renal failure and long-term dialysis was noted, including uremic pericarditis and pericardial effusion. Although the prevalence of uremic pericarditis has decreased to <5% due to improved dialysis techniques especially in hemodialysis patients, some patients with asymptomatic pericardial effusion won't be recognized until the lesions become large enough and impact the hemodynamics of the patient. Herein, we show a rare case of a non-adherent peritoneal dialysis patient with initial presentation of hypotension and syncope.

Case presentation

A 46-year-old uremic patient under peritoneal dialysis (PD) was hospitalized due to syncope. He had high levels of BUN (~90 mg/dL) and creatinine (~20 mg/dL) within the past year. Laboratory data revealed hemoglobin 7.9 g/dL. Furthermore, chest radiograph revealed cardiomegaly in a round-head boot shape (Figure 1). Echocardiography revealed septated massive pericardial effusion with fibrinoid materials (Figure 2), which was difficult for echo-guided pericardiocentesis. Therefore, he received pericardial window construction with more than 600 mL bloody drainage. The pathology of pericardium revealed chronic fibrinoid pericarditis. The effusion analysis revealed hematocrit level of 30.9% and albumin level of 3.61 g/dL, which resembled the hematocrit and albumin levels in the blood, thus a diagnosis of pericardial hemorrhage was made. After the operation, the patient's baseline blood pressure increased from 90/60 mmHg to 130/100 mmHg, and the follow-up transthoracic echocardiography revealed significant improvement of right ventricle dilation.



Figure 1. Chest radiograph shows cardiomegaly in a round-head boot shape.

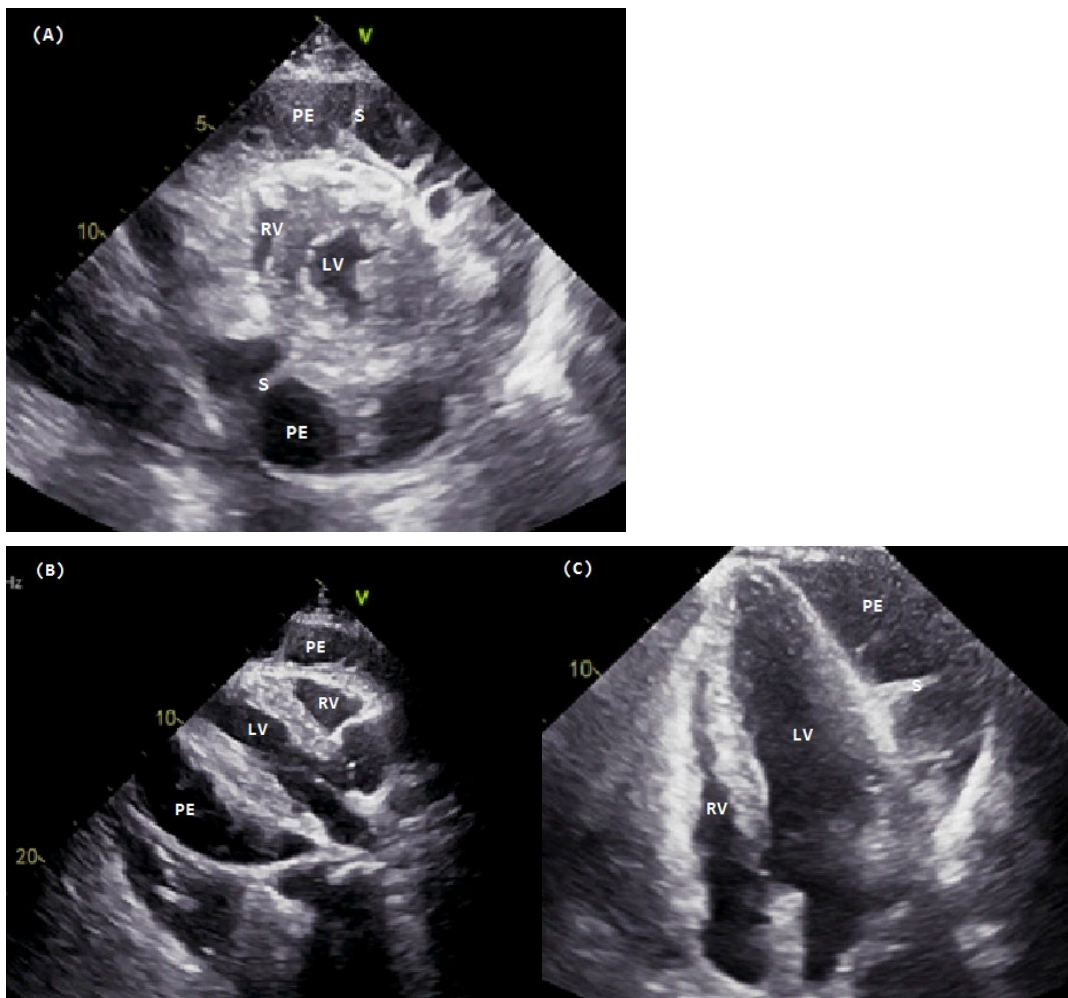


Figure 2. Transthoracic echocardiogram reveals septated, fibrinoid pericardial effusion and right ventricular compression. (A) Parasternal short-axis view at diastolic phase at mid-ventricular level. (B) Parasternal long-axis view at diastolic phase. (C) Apical four-chamber view at diastolic phase.

Discussion

The traditional definition of uremic pericarditis was onset of clinical symptoms and signs before or within 8 weeks of renal replacement therapy. However, uremic pericarditis can also develop in non-adherent and under-dialyzed patients with higher level of toxic metabolites, nitrogenous metabolic end products, free radicals and increased endothelial permeability even in a low inflammatory state, which may contribute to the pathogenesis of uremic pericarditis. Besides, uremic patients have higher bleeding tendency due to platelet dysfunction caused by uremic toxin, anemia and von Willebrand factor (vWF) dysfunction. Our patient presented with syncope rather than typical symptoms of pericarditis such as anterior chest pain and fever. It could be explained by acute uremic bleeding in a chronic inflammatory pericardial space so as to result in a rapid accumulation of fluid and impedance to cardiac filling, eventually leading to the decrease in cardiac output. Among the population affected by chronic kidney disease, uremic pericardial effusion or pericarditis used to be a sign to initiate dialysis, but it can also be a sign to remind the clinician of reevaluating the patient's dialysis adequacy before any catastrophic complication such as cardiac tamponade occurs.

References

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