A 59-year-old woman with a history of chronic kidney disease and impending uremia was admitted to our emergency department due to general weakness. Physical examination revealed pale conjunctiva, icteric sclera, abdominal tenderness, engorged jugular vein, tachycardia (heart rate, 110 beats/min) and hypotension (blood pressure, 63/32 mmHg). Laboratory investigation showed that the hemoglobin, aspartate aminotransferase, alanine aminotransferase, total bilirubin and direct bilirubin levels were 8.1 g/dl, 89 U/l, 121 U/l, 3.6 mg/dl and 2.0 mg/dl, respectively. Abdominal sonography revealed massive ascites. Abdominal computed tomography (CT) was performed and pre-contrast and post-contrast images were obtained. Contrast enhanced CT (Figure 1) revealed massive pericardial effusion, pleural effusion, ascites and dilated inferior vena cava (IVC). Further, we observed retrograde contrast media reflux into the dilated hepatic vein and liver parenchyma with heterogeneous enhancement. Radiological findings indicated cardiac tamponade with liver congestion. Immediately, a pericardial drainage tube was inserted and the vital signs of the patient were stabilized. The cytological examination, microbiological test and adenosine deaminase levels of pericardial fluid were all non-significant. The pericardial drain was removed later, and no pericardial fluid accumulation was observed after the initiation of hemodialysis. Clinical manifestations confirmed the diagnosis of uremic pericarditis.

Congestive liver is most often related to congestive heart failure. The characteristic imaging findings on CT scan included simultaneous enhancement of right atrium, dilated IVC, hepatic vein and liver parenchyma during arterial phase, which suggest that liver enhancement is due to retrograde rather than antegrade blood flow with contrast medium, as observed in most contrast studies. A good understanding about the hemodynamic changes is crucial to establish accurate diagnosis from the intriguing image findings.

Photograph and text from: Y.-C. Lo, K.-H. Shu and T.-M. Yu, Division of Nephrology, Department of Internal Medicine, Taichung Veterans General Hospital, 160, Section 3, Taichung-Kang Rd, Taichung, 407, Taiwan. email: yu5523@gmail.com.

Conflict of interest: None declared.

Reference