

# Abdominal ascitic fluid: tricky concealing of the electrocardiogram

Trudności w ocenie elektrokardiogramu spowodowane wodobrzuszem

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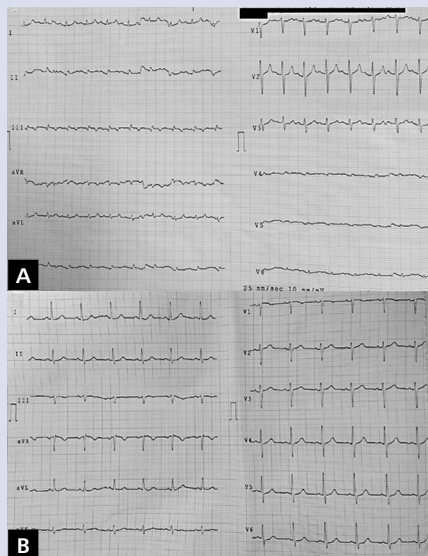
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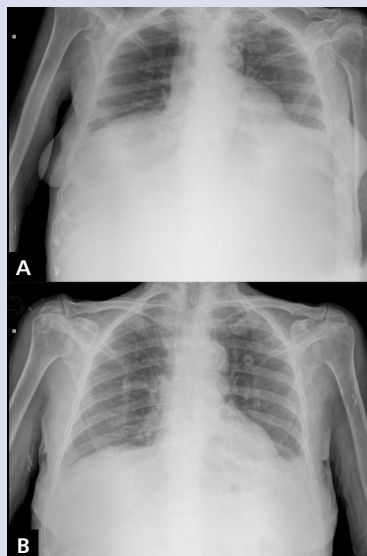
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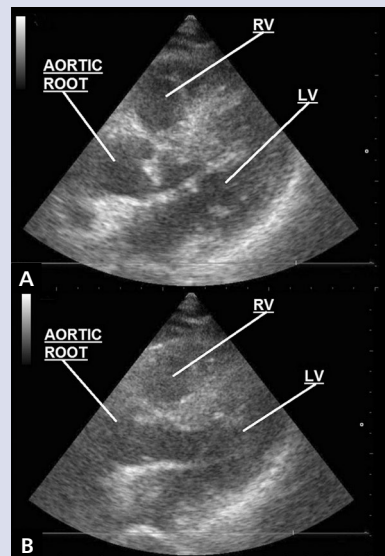
A 75-year-old Caucasian woman was referred to our Emergency Department (ED) with swollen legs and exertional dyspnoea. Additionally, she had a pancreatic adenocarcinoma with diffuse metastatic involvement and peritoneal carcinosis. Her physical exam revealed a blood pressure of 110/60 mm Hg, pulse 130/min, jugular venous distention not associated with pulsus paradoxus, muffled heart sounds, ascites, and ankle oedema. Upon her arrival at the ED blood saturation was 75% and arterial blood gas analysis revealed severe respiratory acidosis. An electrocardiogram (ECG) was promptly performed showing a sinus tachycardia and very low voltage on peripheral leads and on V4–V6 leads (Fig. 1A). Transthoracic echocardiography was performed due to suspicion of a pericardial effusion. However, the ultrasound examination was unreliable due to diffuse anechoic interposition of a large abdominal effusion altering the correct identification of cardiac chambers. Thoracic echoscopy showed no pleural or pericardial effusion. Chest X-ray demonstrated consistent elevation of the diaphragm resulting in heart displacement due to a huge ascitic effusion (Fig. 2A). Paracentesis was eventually performed, subtracting about three litres of ascitic fluid and resulting in improvement of the haemodynamic parameters and of dyspnoea. The procedure enabled the correct visualisation of cardiac structures by means of cardiac ultrasound examination, and the presence of pericardial effusion or constrictive pericarditis was definitely ruled out (Fig. 3A, B). Notably, three months before the referral the patient underwent a comprehensive medical evaluation with normal ECG (Fig. 1B) and X-ray (Fig. 2B) findings, demonstrating how impending abdominal effusion can consistently change ECG registration and interpretation.



**Figure 1.** A. Electrocardiogram on admission and (B) three months earlier



**Figure 2.** Chest X-ray after (A) and before (B) ascites



**Figure 3.** Transthoracic echocardiography off-axis, diastolic (A) and systolic (B) frames showing no presence of pericardial effusion; LV — left ventricle; RV — right ventricle

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#### Conflict of interest: none declared

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