Early ultrasonographic detection of massive pulmonary embolism

Dear Editor,

A 52-year-old female patient with a history of hypertension and a recently performed right knee arthroscopy consulted to our emergency department with severe shortness of breath, tachycardia, tachypnea, and oxygen saturation of 80%. Ten minutes after admission, the patient suffered cardiac arrest with pulseless electrical activity (PEA). Cardiopulmonary resuscitation was initiated immediately, and a heart ultrasound was performed. Right dilated ventricle, interventricular septum flattening, and paradoxical movement were evidenced. Accordingly, the attending physician decided to start thrombolytic therapy (alteplase 50 mg bolus). After 5 min, the patient returned to spontaneous circulation and care was continued in the Intensive Care Unit. Two weeks later, she was discharged from the hospital without any sequela.

Pulmonary embolism (PE) is a cause of cardiac arrest presenting with PEA. In fact, 36% of patients who experience cardiac arrest and PEA have PE.[1] Massive PE (MPE) leads to sustained hypotension, pulselessness, or persistent profound bradycardia. Its mortality reaches 65%.[3] Echocardiographic diagnosis of MPE is based on signs of the right ventricular overload. Although echocardiography is operator-dependent, it can guide decision making in the acute setting.[3] Some ultrasonographic signs of MPE are interventricular septum flattening and paradoxical movement, McConnell’s sign, and 60/60 sign [Figure 1].[4] Interventricular septum flattening and paradoxical movement have a sensitivity and specificity of 81 and 45%, respectively.[4] McConnell’s sign has a sensitivity and specificity of 70 and 33%, respectively. The 60/60 sign has a sensitivity of 19 and a specificity of 94%.[5] Low-diagnostic accuracy for each individual echocardiographic sign warrants their combined use to achieve a greater diagnostic certainty.

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Conflicts of interest
There are no conflicts of interest.

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Dear Editor,

In recent years, contrast materials (CMs) are widely used in the patients to whom imaging methods are applied for diagnosis and treatment as a consequence of the increase observed in the utilization of computed tomography.[1] Short-term and long-term side effects and even death are seen depending on the utilization of iodinated CM. Contrast-induced nephropathy (CIN) is the most significant side effect of those media.[2]

Acute allergic reactions are the complications which are known to develop after the utilization of intravenous CM, and they may cause mild symptoms such as urticaria and itching, or they may result in severe outcomes such as cardiopulmonary arrest and death.[3]

A total of 1463 patients were scanned retrospectively. In 13 (0.88%) of 1463 patients, allergic reaction developed, and in 37 (9.39%) of the patients included in the CIN group (394 patients), CIN developed.

There is no specific treatment for CIN; however, hemodialysis can be used if clinically necessary.[4] Many treatments such as hydration, sodium bicarbonate, theophylline, N-acetyl cysteine (NAC), ascorbic acid, and adenosine antagonists have been tried for prevention of CIN. The most effective method for preventing CIN is adequate hydration.[5]

When prophylactic implementations were analyzed after CM application in the emergency department, statistically significant difference was determined in CIN development rates between the groups according to the distribution of hydration supply rates ($P < 0.05$). Statistically significant difference was not recorded between the groups in terms of NAC ($P > 0.05$).

Contrast‑induced nephropathy and allergic reaction in patients who were given intravenous contrast material in emergency department...