Takotsubo cardiomyopathy complicated by left-ventricular apical thrombus

A 68-year-old woman presented with pneumonia and was found on chest radiographs to have bilateral lung nodules. She was very anxious because of the possibility of lung cancer. She underwent a CT-guided lung biopsy, which revealed squamous-cell carcinoma of the lung. On the same day, inferolateral ST elevation was noted on electrocardiogram. The patient denied any chest pain. Troponin T was elevated. Cardiac angiogram showed no coronary artery disease. Transthoracic echocardiogram revealed akinetic apex with preserved basal wall motion (figure 1, movie 1), mobile left-ventricle apical thrombus (figure 2, movie 2) and pericardial effusion. These findings were consistent with Takotsubo cardiomyopathy (TC). Anticoagulation was not administered owing to a high risk of bleeding. A subsequent thorax computed tomogram revealed extensive metastatic diseases, and the patient received palliative care. She died 3 days later.

TC is a rare disease entity that occurs in 0.7–2.2% of patients with acute coronary syndrome, and it is often triggered by physical or emotional stress. Diagnostic criteria centre on acute and reversible left-ventricular apical ballooning of unknown cause. Most patients present with acute coronary syndrome-type symptoms, but without concomitant obstructive coronary artery disease.

Only a few case reports have suggested an association of TC with cancer. In our patient, apical thrombus could have occurred as a result of malignancy-associated hypercoagulability or akinetic apex, increasing the likelihood of thromboembolic events. Although apical thrombus is infrequent in TC, one needs to be aware of this possibility; evaluate the apical segments carefully and use contrast, if necessary, to exclude apical thrombus in patients with TC.

Karyne L Vinales, Mohammad Q Najib, Hari P Chaliki

Correspondence to Hari P Chaliki; chaliki.hari@mayo.edu

REFERENCES

Figure 1 Apical four-chamber view of the left ventricle on a transthoracic echocardiogram in (A) systole and (B) diastole. Note the absence of left-ventricular apical contraction during systole; apical ballooning of the left ventricle can also be seen. LV, left ventricle; RV, right ventricle.

Figure 2 Modified apical long-axis view on a transthoracic echocardiogram of the left ventricle showing a large thrombus (arrow).