

Stress-induced cardiomyopathy caused by thyroid storm of unknown etiology: A Case Report

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Stress-induced cardiomyopathy(SCMP) is a reversible, nonischemic cardiomyopathy commonly associated with emotional or physical stress. Though thyrotoxicosis has been identified as a rare cause of SCMP, dysfunctional catecholamine regulation in thyroid storm can act as a similar physiologic stressor. We report a rare case of SCMP precipitated by thyroid storm. An 80-year-old female with history of hypertension, type 2 DM, non-ST-elevation ACS status post PCI presented to the emergency department with headache. Vital signs were stable and no symptoms or signs other than headache were observed. Initial laboratory data revealed T3 2.28ng/mL, TSH <0.05μIU, Free T4 2.18ng/dL. There were no remarkable findings on cardiac biomarkers, ECG and chest x-ray. On the third day of hospitalization, patient showed dyspnea and fever up to 38°C with delirium. Pulmonary edema was found on chest x-ray. CK-MB 14.10ng/mL, Troponin-T 0.379ng/mL and NT-pro BNP 6920.0pg/mL was reported. On ECG, sinus tachycardia(146 bpm) and T wave inversion on precordial leads were seen. Moderate LV systolic dysfunction(EF=30-34%), akinesia of the mid-to-apical LV wall(Figure 1) and moderate pulmonary hypertension(RVSP=55.83mmHg) was found on TTE. CAG was performed, neither in-stent restenosis nor new stenosis was seen. SCMP was diagnosed by its characteristic findings on TTE, after excluding ischemic disease through CAG. Antithyroid antibodies were negative and thyroid USG showed atrophied parenchyme with normal blood flow. It was thought that thyroid storm of unknown etiology induced SCMP, resulting in LV failure then subsequent pulmonary edema was developed. As drug treatment including antithyroid drug, beta blocker, glucocorticoid and ARNI/MRA started, vital signs were stabilized and pulmonary edema was resolved. On the TTE after two weeks, LV systolic function & regional wall motion abnormalities were improved(EF=50-54%). Patient was discharged to a nursing hospital. We present a case of SCMP in the setting of thyroid storm. Our case highlights the importance of awareness about the potential role of abnormal thyroid hormone in SCMP in order not to miss a reversible cause of heart failure.

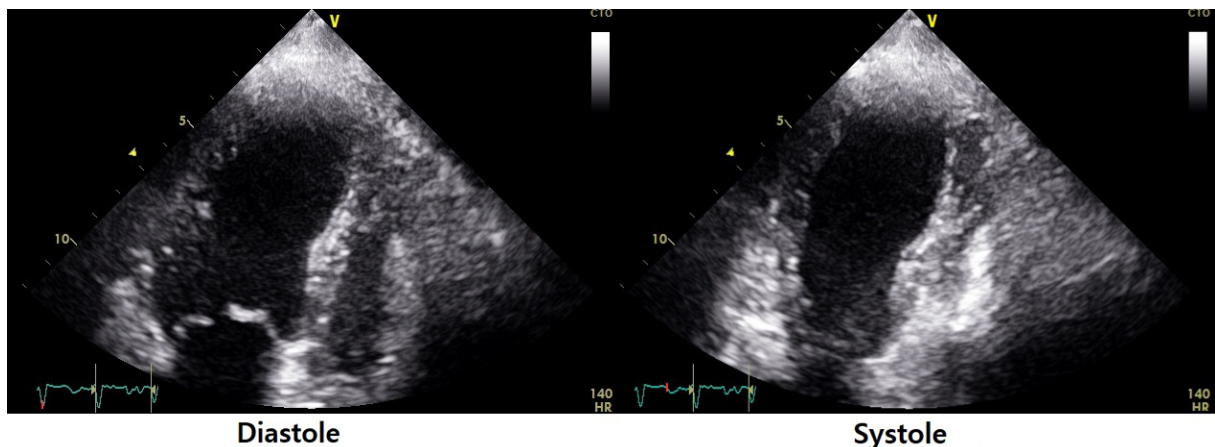


Figure 1