

WATCH OUT FOR THIS WATCHMAN DEVICE COMPLICATION

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Abstract:

Hemorrhagic pericardial effusion is a relatively common complication of Watchman device placement. As Watchman devices become more commonly used for management of embolic risk in patients with atrial fibrillation, it is important for any physician who may care for these patients to be aware of this potentially life-threatening complication.

A 79-year-old male with a past medical history of chronic myelomonocytic leukemia (CMML) with thrombocytopenia and hypertension as well as paroxysmal atrial fibrillation status-post ablation and left atrial appendage occlusion with a Watchman FLX device three days earlier presented with orthopnea, dyspnea on exertion, and low-grade fever. While he was treated for community acquired pneumonia and acute congestive heart failure exacerbation, he developed recurrent atrial fibrillation with rapid ventricular rate. Echocardiogram obtained 5 days post-Watchman device placement showed concentric LVH, normal LVEF without wall motion abnormalities, and a small pericardial effusion without diastolic filling impairment. Cardioversion was attempted but unsuccessful; his antiarrhythmic was changed from propafenone to amiodarone. Eight days after his Watchman device placement, he developed progressive exertional dyspnea and peripheral edema with labs notable for elevated lactate, acute kidney injury, and acute liver injury. An echocardiogram revealed a large pericardial effusion with compromised diastolic filling consistent with tamponade physiology. He underwent urgent pericardiocentesis and drain placement with an output of 900 cc of bloody fluid and immediate hemodynamic resolution. He was discharged from the hospital 4 days later on a 3-month course of colchicine for inflammatory pericarditis, and his oral anticoagulation was stopped.

Left atrial appendage occlusion with a Watchman device has become an increasingly common alternative for reducing embolic stroke risk in patients with non-valvular atrial fibrillation who are at high risk of bleeding from long-term anticoagulation. In both clinical trials and real-world assessments of Watchman device safety, pericardial effusion remains the most common complication, with studies based on large national registries reporting an incidence of 1.24 - 1.4%.¹⁻³ In fact, the high rate of serious pericardial effusions at nearly 5% in the initial regulatory trial, PROTECT AF, was one of the key safety points necessitating further studies before Watchman device approval in 2015.^{3,4} The mechanisms for pericardial

effusion include trans-septal puncture, manipulation of guide wires and catheters in the left atrial appendage, and deployment of the Watchman device.⁵ Our patient had additional risk for pericardial effusion from his medical history of CMML, thrombocytopenia, oral anticoagulation use, and, potentially, concurrent ablation. Our patient's tamponade physiology was likely camouflaged by his rapid atrial fibrillation and robust peripheral vascular response, while use of amiodarone confounded the etiology of his acute liver injury. As peri-Watchman pericardial effusion is associated with high rates of in-hospital morbidity and mortality, awareness and early detection of this life-threatening complication is crucial for the internist.