TO THIN OR NOT TO THIN: A "NOVEL" CASE OF SPONTANEOUS HEMORRHAGIC PERICARDIAL TAMPONADE COMPLICATED BY ACUTE CVA WITH INTRACARDIAC THROMBUS

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Background:

The novel oral anticoagulants (NOACs) have become more favorable over time with their predicted pharmacologic profiles, fewer drug interactions, lack of significant dietary effects, and lower risk of intracranial hemorrhage compared with other traditional therapies, for example Warfarin [3]. They are well studied in the prevention of CVA for patients with non-valvular A-fib, as well as the treatment of venous thromboembolism. NOACs, including Apixaban, are rarely known to precipitate episodes of spontaneous hemorrhage, such as intracranial, pericardial, or pleural; however, there are a limited number of case reports showing just that [2,6,7].

Case:

Here we report a 73-year-old female who presented to the outpatient office with one week history of progressive fatigue with dyspnea. Notable cardiac history included non-obstructive CAD, permanent a-fib (on chronic Eliquis) s/p multiple prior DCCV attempts, and recent modified MAZE with LAA amputation, as well as concomitant bioprosthetic MVR for severe MR (4 months prior). Initial work up was suggestive of shock state, including AKI and mild-moderate transaminitis; however, the patient failed to respond to fluid resuscitation. Secondary work up with echocardiogram revealed large pericardial effusion with tamponade physiology (Fig. 1).

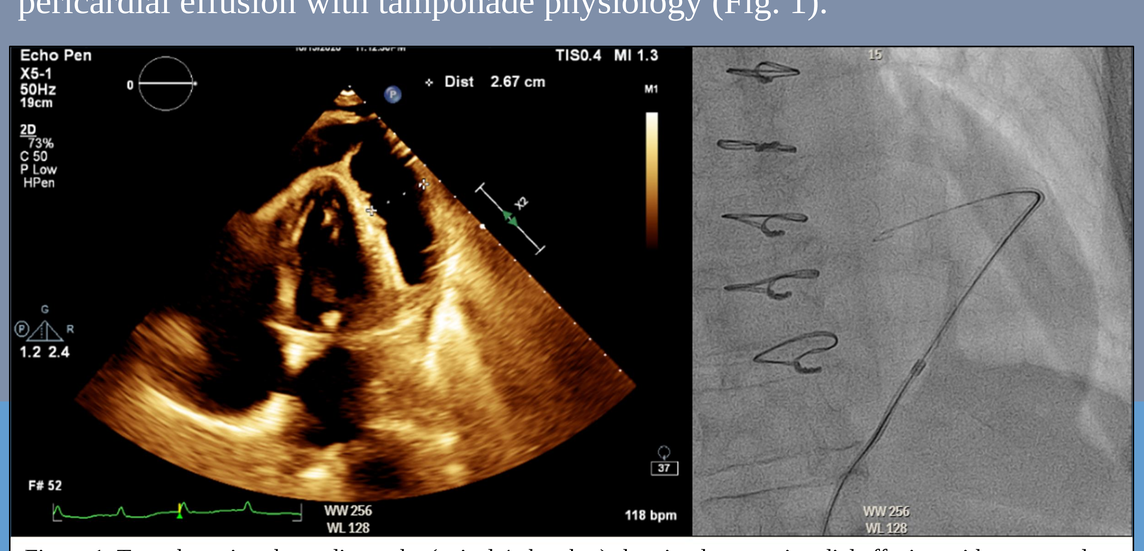

Figure 1: Transthoracic echocardiography (apical 4 chamber) showing large pericardial effusion with tamponade physiology (LEFT). Pericardiocentesis with insertion of pericardial drain under fluroscopy (RIGHT).

Emergent pericardiocentesis was performed with sanguineous drainage. Anticoagulation discontinued. Etiology of effusion remained unclear, as cytopathology, inflammatory, and infectious workup were all nondiagnostic.

Furthermore, unremarkable TEE with DCCV had been performed within the last month due to recurrent a-fib. Unfortunately, patient experienced ACS event (suggestive of inferior STEMI) 8 days later with LHC exhibiting only non-obstructive CAD (Fig. 2). A post procedural TTE would go on to reveal newly reduced LVEF 30-35% with large, left atrial thrombus (19 cm^3) and moderate size bioprosthetic MV thrombus (Fig. 3). MRI head/brain was also performed for patient encephalopathy, which confirmed small, bilateral infarcts suggestive of central embolic source. Anticoagulation was initiated with Rivaroxaban. A follow-up TEE was conducted 6 weeks later, with complete resolution of intracardiac thrombus without recurrent MACE or major adverse bleeding.

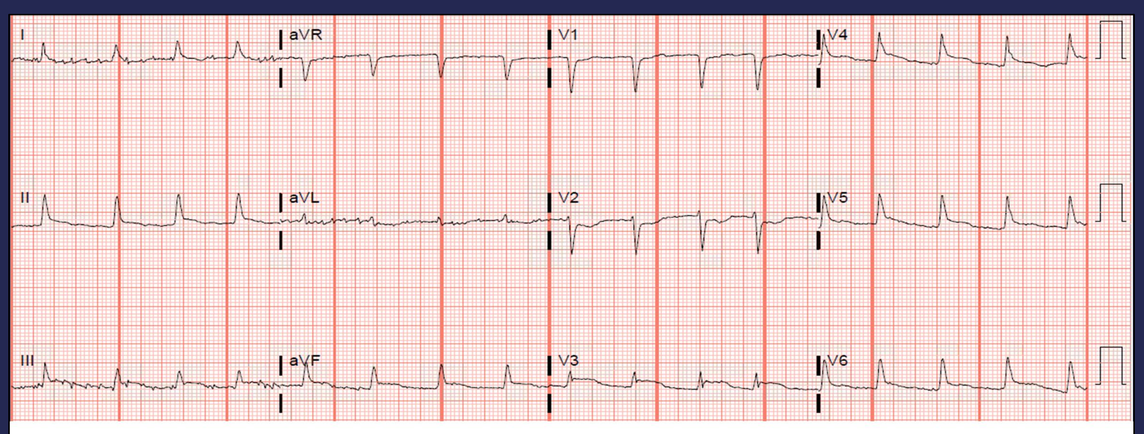

Figure 2: EKG showing ST elevation leads II-aVF with other non-specific ST-T changes.

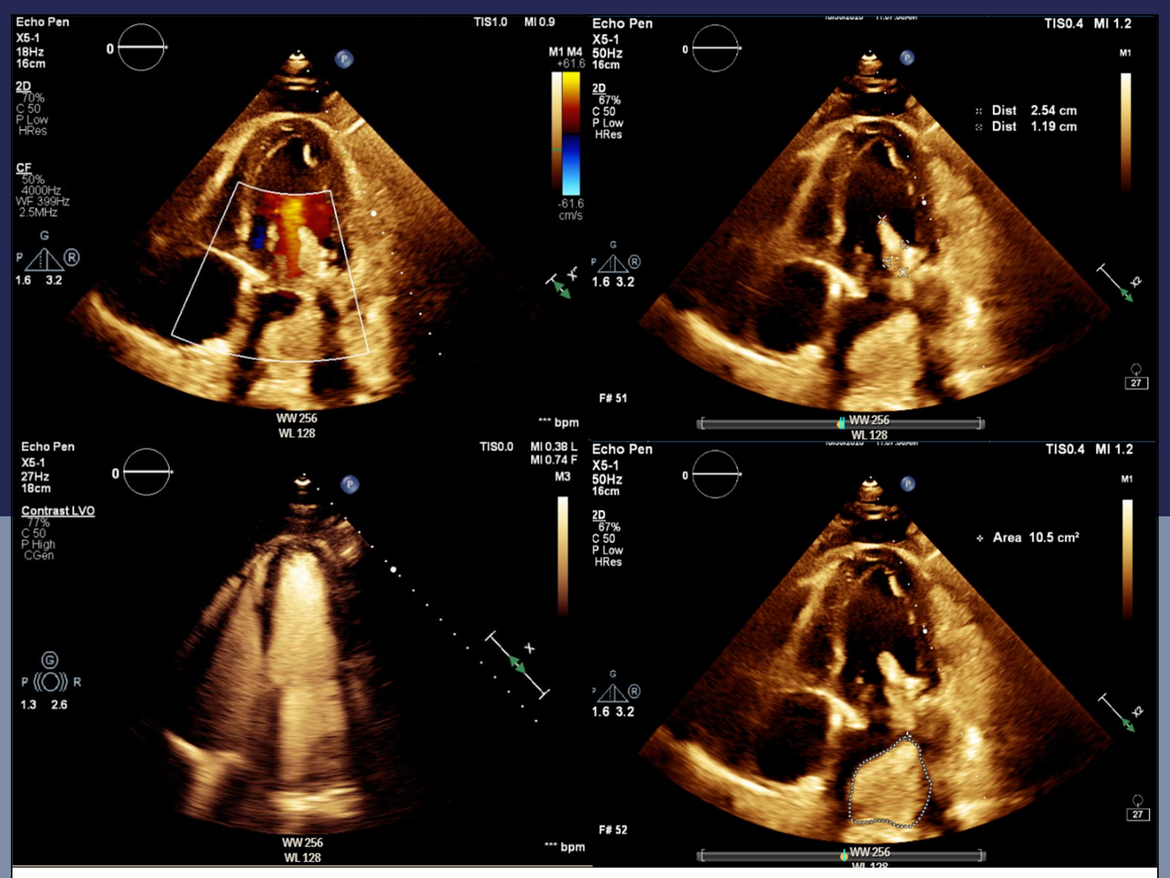

Figure 3: Transthoracic echocardiography (apical 4 chamber) showing large, left atrial thrombus (10.5 cm^3) and moderate size bioprosthetic MV thrombus (ABOVE).

Decision-making:

We believe it highly unlikely that this patient's hemorrhagic effusion was related to prior surgical intervention, as represented by the remote procedure date (>4 months prior) and recent unremarkable TEE (<1 month prior). Consequently, we feel that this presentation may represent an idiopathic process, or even more likely a spontaneous bleeding event while receiving chronic Apixaban therapy. Clinical decision making was based on review of medical literature review showing slightly increased rates of intracranial bleeding with Warfarin, and Rivaroxaban, when compared to Apixaban [1,3]. Be that as it may, there are no large studies to date verifying the efficacy, and safety, of Apixaban for non-valvular a-fib [4]. Furthermore, the RIVER trial demonstrated in patients with afib and bioprosthetic MV, Rivaroxaban was noninferior to warfarin with respect to death, MACE, and major bleeding at 12 months [5]. Ultimately, our concern for recurrent major adverse bleeding was overshadowed by potential benefit of anticoagulation with Rivaroxaban.

Conclusions:

In conclusion, chronic anticoagulation with Apixaban has been shown safe and effective, with very few reports of spontaneous bleeding when compared to Warfarin and Rivaroxaban; however, special consideration should still be given to the treatment of high-risk populations with non-valvular A-fib [1,3].

References:

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