AN UNEXPECTED SOURCE OF CARDIOEMBOLIC STROKE

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Introduction
- Cardioembolic strokes are commonly associated with malignancy by inducing a hypercoagulable state but are rarely a result of marantic endocarditis.
- Detection of fibrin and platelets without infectious organisms to cardiac valves in marantic endocarditis is often related to malignancies and autoimmune conditions.
- The case depicted a patient with active malignancy presenting with embolic strokes found to have blood culture negative valvular vegetations consistent with marantic endocarditis.

Culprit Primary Malignancy in Marantic Endocarditis
- Lymphoma
- GI
- Lung
- Unknown Primary
- Urinary Tract
- Gynecologic
- Misc
- Sarcoma
- Breast
- Head and Neck

Initial Presentation
An 83-year-old woman with a past medical history of breast cancer treated with surgery and chemoradiation 12 years ago presented with two-day history of left sided weakness and altered mental status.

Recent diagnoses:
- Upper and lower extremity deep venous thrombi
- Renal and splenic infarcts
- Metastasis to the liver with unknown primary

Medications: Apixaban

Physical Exam: Vitals: 98.5F, 78 bpm, 20 bpm, 122/56, 98% on RA

Discussion
- Sterile vegetations of marantic endocarditis are more likely to embolize compared to their infectious counterparts due to less inflammatory reaction causing unstable thromb
- Our patient’s initial echocardiogram did not display vegetations as they likely had recently embolized to her brain causing the stroke on presentation.
- Vegetations redeveloped and did not embolize causing heart failure symptoms, allowing them to be captured on echocardiogram.
- Our patient’s underlying etiology behind her marantic endocarditis was not elucidated, however most likely primary sites include colon (never screened), lung (multiple nodules on imaging), and breast (previously treated 12 years ago).
- Our patient had recurrent emboli, negative blood cultures, active malignancy, and failure to improve on initiation of antibiotics, favoring marantic endocarditis over blood culture negative endocarditis.
- Treatment includes anticoagulation and addressing the underlying malignancy.
- Mortality is high in these patients and consideration of hospice care should be discussed with patients and their families.

Hospital Course
- Reperfusion strategies were bypassed due to prolonged symptom duration.
- Permissive hypertension, antplatelet, and statin therapies were provided while etiological evaluation included transthoracic echocardiogram showing mild aortic and mitral valve regurgitation.
- Later, patient developed shock with multiorgan failure including respiratory failure requiring intubation.
- Transthoracic echo was done to further evaluate differential diagnosis for shock which showed large aortic and mitral valve vegetations with severe regurgitation, confirmed by transesophageal echocardiogram confirmed findings (QR code below).
- Blood cultures were negative and broad-spectrum antibiotics were started.
- Concern for marantic endocarditis increased as blood cultures remained negative, as a result heparin infusion was started.
- Ultimately, the patient transitioned to hospice care after family discussion and quickly passed away.

Figure 2. (A) TEE midesophageal right ventricle inflow-outflow view displaying extensive aortic valve vegetations. (B) TEE midesophageal showing turbulent AV regurgitation. (C) TEE showing diffuse MV vegetations. (D) TEE midesophageal long axis showing turbulent MV regurgitation. LA = Left Atrium, RA = Right Atrium, RV = Right Ventricle, Ao = Aorta, LV = Left Ventricle, TEE = Transesophageal Echocardiogram

Figure 3. (A) Nonbacterial thrombotic vegetation sitting on the left cusp of the aortic valve. (B) Microscopic view of valve tissue (left) and vegetation (right). Of note, the vegetation displays minimal variation as it is composed of platelets and fibrin.

Table 1. Numbers of diffuse and biatrial cardioembolic strokes, with extensive burden of small evolving infarcts to bilateral cerebral hemispheres. DWI = Diffuse-weighted imaging, ADC = Apparent diffusion coefficient

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- QR code produced by Molly Wiese

References
4. https://www.jfmc.edu/CJVF07_CVDDI.html