65-year-old female with multiple thromboembolic events

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History of Present Illness

- 65-year-old female presented with acute left arm pain
- Awakened from sleep several hours prior
- Left hand cool and numb
Past Medical History

- Stroke 2 months prior
  - MRI revealed multiple areas of infarction
  - Deficits resolved
Additional History

- Family History: No history of cardiac disease, stroke, coagulation disorders

- Social History: No tobacco, alcohol or illicit drug use

- Medications: None
Physical Examination

- T 97.1F, HR 110, BP 134/92, RR 15
- CV: Regular, Tachycardic, No murmur
- Ext: LUE cool and pale, non-palpable pulses
- Exam otherwise unremarkable
Hospital Course

- Emergent angiography, revascularization
- Embolectomy of left subclavian, brachial, radial, and ulnar arteries
Hospital Course

- Post-operatively became unresponsive and was re-intubated
- MRI revealed large posterior circulation stroke
- Poor neurologic prognosis
- Patient expired several days later
Review

- Stroke #1
- LUE Ischemia
- Embolectomy
- Stroke #2
- Death

2 months

4 days
Arterial Emboli

- Cardiac
- Aortic/Arterial
- Hypercoagulable state
Cardiac Sources

- Atrial fibrillation
- Myocardial infarction
- Cardiomyopathy
- Endocarditis
- Prosthetic heart valves
- Atrial myxoma
- Paradoxical emboli
Other Sources

- **Aortic/Arterial**
  - Atherosclerotic plaque
  - Aneurysm

- **Hypercoagulable state**
  - Anti-phospholipid syndrome
  - Heparin-induced thrombocytopenia (HIT)
  - Hyperhomocysteinemia
Sources of Emboli

- Cardiac
- Aortic/Arterial
- Hypercoagulable state
Previous Evaluation

- Cardiac
  - EKG, Transthoracic echocardiogram (TTE) normal

- Aortic/Arterial

- Hypercoagulable state
Previous Evaluation

- **Cardiac**
  - EKG, Transthoracic echocardiogram (TTE) normal

- **Aortic/Arterial**
  - Mild dilatation of aortic arch on chest CT, otherwise normal

- **Hypercoagulable state**
Previous Evaluation

Cardiac
- EKG, Transthoracic echocardiogram (TTE) normal

Aortic/Arterial
- Mild dilatation of aortic arch on chest CT, otherwise normal

Hypercoagulable state
- Negative work-up
Autopsy

- 3cm intraluminal mass arising from arch of aorta
- Tumor emboli within aortic arch, brachiocephalic and carotid arteries, right atrium and ventricle
- Multiple areas of cerebral infarction
- Cells stained positive for endothelial cell markers
Angiosarcoma of the Aorta
Angiosarcoma of the Aorta
Primary Aortic Tumors

- Less than 200 reported cases
- Male > Female, Mean age 60 years

Presentation
- Chest, abdomen, back pain
- Embolic events
- Aortic occlusive disease
- Systemic symptoms rare
Angiosarcoma

- Malignant vascular tumor of endothelial cell origin
- Can arise from any soft tissue or organ
- Less than 40 reported cases arising from aorta
Diagnosis

- Most often diagnosed intra-operatively or at autopsy
- Magnetic resonance imaging, angiography (MRI, MRA)
- Transesophageal echocardiography (TEE)
Treatment

- Tumor resection with graft placement
- Reports of long-term survival with adjuvant chemotherapy and/or radiation
  - Doxorubicin, Ifosfamide
Prognosis

- 76% metastatic at presentation
- Mean survival 16 months

Conclusions

- Aortic tumors can present with arterial emboli, occlusive symptoms
- Diagnosed by MRI, TEE
- Treatment is primarily surgical, but prognosis is poor
Conclusions

Although aortic tumors are rare, it is important to consider aortic disease as a cause of arterial embolic events, especially in the absence of a cardiac source.
References


