Variable Clinical Spectrum of Fibromuscular Dysplasia of the Brachial Arteries.

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Abstract

Background: Fibromuscular dysplasia (FMD) is an uncommon vascular disorder most frequently manifest in the renal and carotid arteries. Involvement of the upper extremity arteries has been reported rarely in the medical literature and is usually unilateral. We identified two patients in a single center with bilateral brachial FMD.

Case 1: 62-year-old female with pulsatile tinnitus due to FMD of bilateral brachial arteries. She also had renal artery FMD with well-controlled hypertension on two agents. She was found to have a diminished left brachial pulse with associated bruit. Duplex ultrasound of the arm demonstrated turbulent flow with a beaded appearance and velocity shifts in bilateral brachial arteries. She had no upper extremity symptoms.

Case 2: 63-year-old female with left upper extremity ischemia, presented with pain from the elbow to the thumb and digital pallor. Workup for cardiac source of embolus was negative. Arteriography revealed findings of FMD in bilateral brachial arteries and occlusion of the left brachial artery with partial collateral reconstitution. She had no evidence of FMD in the renal or carotid arteries. CTA identified a small basilar artery aneurysm. She was anticoagulated and underwent left brachial to radial artery bypass grafting for arm claudication, rest pain and parasthesias of the hand with good initial results. Histopathology was consistent with FMD.

Conclusion: Though uncommon, FMD may involve the brachial arteries, generally in association with disease in other vascular beds. The presentation of brachial FMD is variable and can range from no symptoms to an ischemic limb. The evaluation of the patient with FMD should include query for arm or hand symptoms and vascular examination of the upper extremity.

Introduction

- FMD is a non-inflammatory non-atherosclerotic disease that affects small and medium size arteries.
- Women in their 40s are primarily affected.
- Renal and carotid arteries are the most commonly involved vascular beds.
- Other vascular beds can be affected although less frequently.
- They are few case reports of FMD involving the brachial arteries.

Findings

Case 1

62-year-old female

- Referred to FMD clinic for a second opinion.
- FMD was diagnosed 15 years before with a carotid ultrasound and subsequent angiogram as workup for pulsatile tinnitus.
- She had known FMD involvement of internal carotid and renal arteries bilaterally.
- HTN controlled with two antihypertensive medications.
- No neurological symptoms. No upper extremity symptoms.
- On exam she had bilateral cervical bruits, diminished left brachial pulse and a bruit over the brachial artery. The rest of the vascular exam was unremarkable.

Findings

Case 2

63-year-old female

- Developed acute pain and paresthesias in her left arm from the elbow to the hand.
- Patient was anticoagulated and transferred to our institution.
- Cardioembolic sources were ruled out, as well as hypercoagulable states.
- Upper extremity angiogram demonstrated bilateral beaded appearance of the brachial arteries, occlusion of the left brachial artery with distal reconstitution through collaterals (Figure 3 and 4).
- As she continued to have rest pain and pre-ulcerative lesions in the fingers she underwent a left brachial-radial bypass with good clinical results. Surgical pathology confirmed the diagnosis (Figure 5).
- Renal and carotid arteries had no evidence of FMD. She has a small basilar artery aneurysm ( incidental finding).

Discussion

- The brachial arteries are uncommonly affected by FMD, with 19 cases reported in the English literature. Twelve (63%) with bilateral involvement.
- Clinical presentations include asymptomatic incidental finding, digital embolism, Raynaud’s phenomenon, parasthesia and dialysis fistula dysfunction.
- Some of the patients had other vascular beds affected by FMD at the time of presentation.
- Treatment has been reported with antiplatelet agents, and arterial angioplasty or reconstruction in symptomatic patients.

Conclusion

- Though uncommon, FMD may involve the brachial arteries, with or without associated disease in other vascular beds.
- The presentation of brachial FMD is variable and can range from no symptoms to an ischemic limb.
- The evaluation of the patient with FMD should include query for arm or hand symptoms and a thorough vascular examination of the upper extremity.

References