

## 10 Tips Doctors Should Know About Fibromuscular Dysplasia (FMD)

- 1. FMD is nonatherosclerotic and noninflammatory disease which can affect arteries in every vascular bed, but it most commonly involves renal arteries and internal carotid and/or vertebral arteries. FMD can present as stenosis, aneurysm, dissection and/or tortuosity.
- 2. FMD is a diagnosis made by imaging. Good quality CT angiography, MR angiography, duplex ultrasound, or their combination is an important part of the evaluation. Catheter-based angiography remains the gold standard in diagnosing FMD, but it is usually reserved for selected cases. One time, head to pelvis imaging (with CT or MR Angiography) is recommended to determine which arteries are affected and to check for aneurysms and dissections of arteries.
- 3. Hypertension and headache are two of the most prevalent manifestations in FMD patients. FMD patients who do not have carotid, vertebral or intracranial involvement can still have headaches. FMD patients can have essential (primary) hypertension not caused by renal FMD (in other words, non-renovascular hypertension). Pulsatile tinnitus, a "swooshing" noise in the ears timed to the heart beat, is a common symptom among patients with carotid and vertebral artery FMD. Another common sign of FMD is a bruit heard with a stethoscope over an artery on physical examination.
- 4. Most patients with FMD are managed conservatively with medical therapy and surveillance. The need for intervention (angioplasty, coiling of an aneurysm, stenting of a dissection) is reserved only for carefully selected cases. It is important to educate patients about symptoms of TIA, stroke, heart attack and arterial dissection.
- 5. In order to prevent the development of atherosclerosis (hardening of the arteries) in patients with FMD, cardiovascular risk factor modification is an important component in the care of these patients. This involves optimal medical therapy for diabetes, high cholesterol, high blood pressure, obesity, and tobacco use. Smoking has been shown to be a risk factor for worse outcomes among patients with FMD.
- 6. Angiotensin Receptor Blockers (ARBs) or Angiotensin Converting Enzyme (ACE) inhibitors are considered first line medications in patients with high blood pressure and renal artery FMD.
- 7. Most experts in the field recommend low dose aspirin (81 mg in the US) for all patients with FMD (asymptomatic or symptomatic) provided there are no contraindications.
- 8. Patients with FMD are generally advised to avoid lifting heavy weights and isometric exercises as well as activities associated with potential vascular trauma (i.e. high velocity neck manipulation), however, data is lacking to guide more specific recommendations.
- 9. Data on the safety of pregnancy in the setting of FMD is lacking, but research is ongoing. It is important that patients with FMD considering pregnancy are seen by a vascular specialist experienced with FMD and a high-risk OB physician.
- 10. There are now 15 sites participating in the US Registry for FMD and more than 2400 patients have been enrolled. Patients can see a vascular specialist with experience diagnosing and managing FMD at of the Registry sites. For a complete up to date list, please visit the Fibromuscular Dysplasia Society of America (FMDSA) website, under the Research Network tab.