



Vascular Medicine

PREVALENCE OF ARTERIAL ANEURYSMS IN PATIENTS WITH FIBROMUSCULAR DYSPLASIA: A REPORT FROM THE UNITED STATES REGISTRY FOR FIBROMUSCULAR DYSPLASIA

Moderated Poster Contributions

Poster Sessions, Expo North

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Session Title: Arterial Vascular Diseases: Novel Concepts in Diagnosis and Therapy

Abstract Category: 35. Vascular Medicine: Non Coronary Arterial Disease

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Background: Fibromuscular dysplasia (FMD) is a disease of medium-sized arteries that may result in stenosis, dissection or aneurysm. It is unclear how FMD patients who develop an arterial aneurysm differ from those who do not.

Methods: Patients enrolled in the FMD Registry from 10 U.S. centers were divided into two cohorts: those with known arterial aneurysms versus those without.

Results: Of the 615 total patients in the FMD Registry, 559 patients had sufficient data for comparison. 124 (22.2%) reported an arterial aneurysm. The five most common aneurysm locations were renal (34.5%), carotid (24.5%), celiac (14.5%), aortic (13.6%) and cerebral arteries (10.9%). Forty patients (36.4%) had more than one aneurysm with a maximum of 5 aneurysms reported. The differences between FMD patients with and without an aneurysm are shown in the table below.

| | Aneurysm No. (%) | No Aneurysm No. (%) | p-value |
|--|---------------------|------------------------|---------|
| | 124/559 (22.2) | 435/559 (77.8) | |
| Male | 20/124 (16.1) | 29/435 (6.7) | 0.0002 |
| Age at onset of hypertension (mean \pm SD) | 39.9 \pm 16.0 | 44.3 \pm 14.3 | 0.031 |
| Family history of aneurysm | 25/100 (25.0) | 76/383 (19.8) | 0.27 |
| History of subarachnoid hemorrhage (SAH) | 5/108 (4.6) | 4/419 (1.0) | 0.021 |
| Presenting symptoms or signs | | | |
| Headache | 61/112 (54.5) | 231/409 (56.5) | 0.75 |
| Hypertension | 81/118 (68.6) | 265/415 (63.9) | 0.38 |
| Cervical bruit | 16/103 (15.5) | 103/387 (26.6) | 0.020 |
| Amaurosis fugax | 1/102 (1.0) | 25/405 (6.2) | 0.041 |
| Homer's syndrome | 1/103 (1.0) | 25/385 (6.5) | 0.025 |
| Multiple vascular bed involvement | 71/120 (59.2) | 190/408 (46.6) | 0.017 |
| Mesenteric involvement | 31/74 (41.9) | 28/194 (14.4) | <0.0001 |
| Intracranial carotid involvement | 25/69 (36.2) | 18/193 (9.3) | <0.0001 |

Conclusion: Roughly 1 in 5 FMD patients reported an aneurysm. Male FMD patients were more likely to develop an aneurysm than female FMD patients. FMD patients with aneurysms had earlier onset of hypertension, higher prevalence of subarachnoid hemorrhage, and were more likely to have FMD identified in multiple vascular beds, especially mesenteric and intracranial carotid artery involvement. Further research is needed to determine the cause of arterial aneurysms in FMD and more effectively recognize FMD patients at risk for aneurysm formation.