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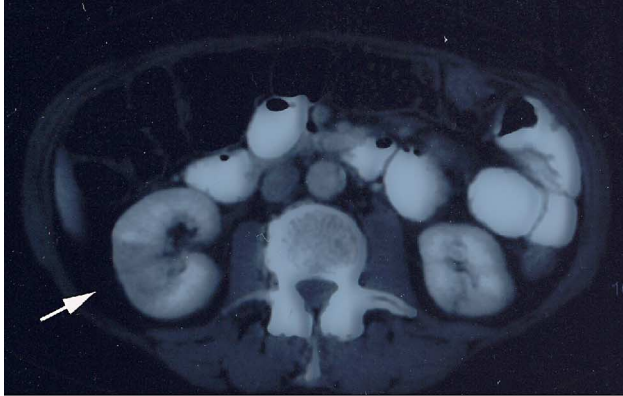
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Images in vascular medicine

Fibromuscular dysplasia

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Panel A



Panel B

A 60-year-old female presented with epigastric cramping and vomiting. Physical examination and initial laboratory work-up was unremarkable, except for severe abdominal tenderness and an elevated lactate dehydrogenase. A CT scan showed a hypodense, triangle-shaped area in the right kidney (Panel A), suggesting renal infarction. Renal duplex scanning revealed a focal increase of flow velocities followed by turbulence in multiple segments of the right renal artery. Arteriography showed multiple lesions ('string of beads') and a parenchymal filling defect (Panel B), establishing the diagnosis of fibromuscular dysplasia (FMD).

FMD most often affects young to middle-aged women (woman to man ratio = 3:1).¹ It is an arterial disease of unknown etiology typically involving the medium and large arteries.² The renal and carotid arteries tend to be the most common location, but also other areas such as the iliac, mesenteric, or vertebral arteries may be affected.³ Histologically, an intimal, medial or subadventitial fibroplasia of the arterial wall can be seen. The medial type is most common and leads to luminal stenosis alternating with aneurysmal outpouchings.⁴ This results in the typical 'string of beads' appearance on arteriography, which is considered pathognomonic for FMD.⁵ The main complications of FMD may arise from dissection, emboli (as in this case) and aneurysm rupture. Diagnosis is established preferentially by arteriography. These typical findings may also be identified by MR arteriography and CT arteriography. With duplex ultrasound, typically a series of stenoses is detected,⁶ and is often the first diagnostic hint.

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