

# Renal fibromuscular dysplasia

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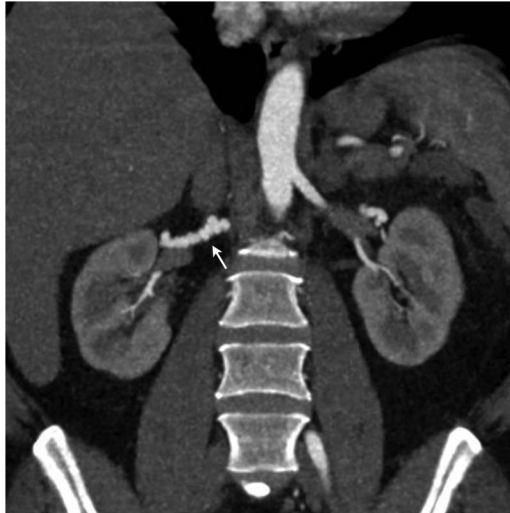
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## DESCRIPTION

A 35-year-old woman was diagnosed with hypertension refractory to three antihypertensive medications. There was a suspicion for renovascular hypertension, and a contrast-enhanced CT scan was performed, which demonstrated alternating sten-

oses and dilations of the patient's bilateral renal arteries (figure 1, arrow showing the right renal artery). This imaging finding represents the classic 'string of beads' appearance of renal artery fibromuscular dysplasia, thought to be the cause of this patient's refractory hypertension. The patient was brought to the angiography suite, where catheter-directed digital subtraction angiography confirmed the CT finding of the 'string of beads' sign of the right renal artery (figure 2, arrow). She underwent percutaneous transluminal balloon angioplasty of her renal arteries, as there was a similar finding of the left renal artery (not shown). At present, 3 months following the procedure, the patient is normotensive on a single oral antihypertensive.



**Figure 1** Coronal arterially enhanced CT image demonstrating the alternating stenoses and aneurysmal dilation of the right renal artery (arrow).



**Figure 2** Catheter-directed digital subtraction angiography confirms the 'string of beads' appearance of the right renal artery (arrow).

## Learning points

- ▶ Renal fibromuscular dysplasia (FMD) is a non-inflammatory, non-atherosclerotic arterial process characterised by segmental collagen deposition and smooth muscle overgrowth within the renal arterial wall, and is an uncommon cause of renovascular hypertension.<sup>1</sup>
- ▶ Renal FMD has a propensity to affect females and most commonly presents between 15 and 50 years of age.<sup>1-3</sup>
- ▶ The gold standard for diagnosis and treatment of renal FMD is renal arteriography and percutaneous transluminal balloon angioplasty, which is successful in reducing blood pressure in approximately 95% of cases.<sup>2 3</sup>

**Contributors** GR-N was the staff surgeon involved with the case. He also edited the report. JW-C was the fellow involved with the case. He wrote the report. MK observed the case, edited the report and created the figures.

**Competing interests** None declared.

**Patient consent** Not obtained.

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