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CLINICAL IMAGES

Silent Inflammation, Stormy Presentation: Bilateral Renal Artery Stenosis Secondary to Takayasu Arteritis

Keywords

Takayasu Arteritis

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A 25-year-old man presented with 3 episodes of flash pulmonary edema in the past 2 months. Despite being on 4 antihypertensives, his blood pressure was 200/140 mm Hg. His serum inflammatory markers (erythrocyte sedimentation rate and C-reactive protein) were raised.

Computed tomography angiography of the abdomen revealed bilateral renal artery stenosis with 99% stenosis in the right renal artery and 90% stenosis in the left renal artery, with thickening of the abdominal aorta (Figure B) and the “double ring sign” (Figure A). A diagnosis of Takayasu arteritis type IV was made. Renal angiography confirmed the findings (Figure C and E) and, subsequently, the patient underwent bilateral renal angioplasty with a cutting balloon and a drug-coated balloon. The end result of the procedure was satisfactory with mild residual stenosis (Figure D and F) and a significant improvement in blood pressure. The patient was well controlled on a single antihypertensive at the 2-month follow-up.

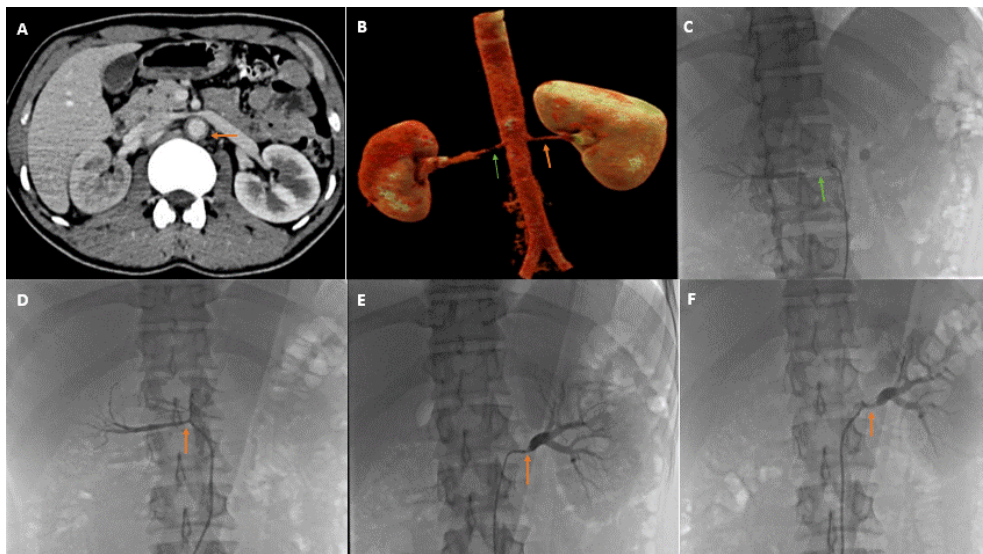


Figure. (A) Contrast-enhanced computed tomography (CT) of the abdomen showed the “double ring sign” (orange arrow). (B) CT angiogram of the renal arteries showed bilateral ostio-proximal renal artery stenosis (orange arrow). (C) Right renal angiogram showed critical stenosis (green arrow) in the ostio-proximal segment. (D) The final result after balloon angioplasty (orange arrow). (E) The left renal angiogram showed critical occlusive stenosis in the ostio-proximal segment (orange arrow). (F) The final result following balloon angioplasty (orange arrow).

Takayasu arteritis is an idiopathic, large vessel vasculitis affecting the aorta and major branches. It has the highest affinity for the left subclavian artery; however, in the Indian population, abdominal aorta involvement is more common. The “double ring sign” is an important sign and marker of active disease (showing a hyperenhancing outer ring due to thickening of the medial and adventitial layers due to inflammation, and a hypo-enhancing inner ring due to swelling of the intima and luminal narrowing). In light of ongoing disease activity and fear of stent restenosis in this case, stenting was deferred, and the patient underwent balloon angioplasty with acceptable results.

Affiliations and Disclosures

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Consent statement: The authors confirm that informed consent was obtained from the patient for the intervention described in the manuscript and for the publication of thereof, including photographs.

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