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Clinical Image

Takayasu's Arteritis and Double Right Renal Artery: A Previously Unreported Association

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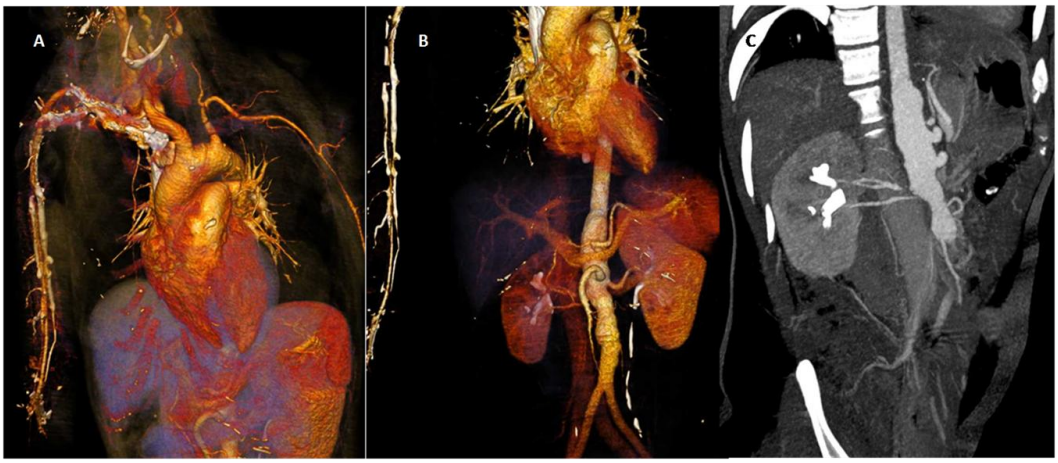

Figure 1: A. Volume rendering computed tomography of the aorta showing estenosis of the left subclavian artery; B. Volume rendering computed tomography showing diffuse circumferential thickening, multifocal ectasia, and aneurysmal dilatation with few saccular pouches in the abdominal aorta, suggestive of Takayasu arteritis. C. Maximum Intensity Projection (MIP) - Shows the double right renal artery.

A 25-year-old female patient was admitted to the hospital with headache. Physical examination revealed absence of bilateral radial pulses and a blood pressure of 203/120 mmHg in the right arm and 165/94 mmHg in the left arm. A murmur was heard in the left subclavian artery, but the remaining physical examination showed no abnormalities. In order to better stratify this finding on physical examination, a Thoraco-abdominopelvic computed tomography angiography was performed. He showed stenosis of the left sub-

clavian artery and obstruction of the left common carotid artery (Figure 1A), diffuse circumferential thickening, multifocal ectasia, and aneurysmal dilatation with saccular pockets in the abdominal aorta, consistent with Takayasu's arteritis. In addition, a rare anatomical variant was identified, a double right renal artery (Figure 1B and 1C).

Takayasu's arteritis is a rare vasculitis that mainly affects the aorta and its main branches, leading to arterial narrowing, aneurysm formation, and potentially serious complications such as hypertension, heart failure, or stroke [1]. Anatomical variations in renal vascularization are frequently observed and documented by anatomists, radiologists, and surgeons, reflecting the complexity of renal blood supply. The presence of a double renal artery originating directly from the abdominal aorta is not considered a rare anomaly and has been described in several morphological studies [2].

In most cases in which this arterial duplication occurs, an asymmetric pattern is observed in which one of the arteries has a larger diameter and predominates in the irrigation of the renal parenchyma, while the other has a secondary role and functions as an accessory vessel. In these cases, the artery with the largest diameter is called the main renal artery, while the smaller one is called the accessory artery. This terminological distinction is fundamental, because although accessory renal arteries are often neglected, their inadvertent injury or ligation can significantly compromise renal perfusion and consequently organ function [2, 3]. However, in the specific case analyzed, both arteries were of equivalent caliber, justifying the terminology "double renal artery" and not the classification as an accessory artery.

The patient was treated for arterial hypertension with amlodipine 10 mg, losartan 50 mg and prednisolone 40 mg, and remained asymptomatic for three years of follow-up. Although the association between Takayasu's arteritis and right renal double artery may have variable clinical involvement according to perfusion changes at the renal level, this coexistence has not been previously reported. The publication of this clinical image is particularly relevant for clinicians, radiologists and vascular surgeons, as it highlights the importance of recognizing vascular anatomical variations in the context of systemic vasculitis. A deeper understanding of these anomalies can contribute to better surgical planning, interventional radiology procedures, and overall patient management.

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Conflicts of Interest: None.

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