Bilateral Accessory (Aberrant) Renal Arteries Associated With Uncontrolled Hypertension—Role of Renin-Angiotensin-Aldosterone Antagonist Drugs for Treatment Goal: A Case Report

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Introduction: Accessory (aberrant) renal arteries (ARAs) are extra vessels that supply the kidneys in addition to the usual single arteries. They typically arise from the abdominal aorta but can also originate from other abdominal/pelvic arterial systems. They can be seen in up to 30% of adults, can complicate various urological, abdominal surgery, interventional radiological, and transplantation procedures.

Case Report: A 49-year-old woman had developed elevated blood pressure during her previous pregnancies, and hypertension persisted after pregnancy. Angiotensin- converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARB) could not be used at the time because of teratogenic considerations. Antihypertensive drugs as calcium channel antagonists, beta-blockers, direct vasodilators, and thiazide-based diuretics did not control the blood pressure to goal. Renal Doppler studies showed a slight increase in peak velocity on the right renal artery. A computed tomographic angiography (CTA) and magnetic resonance angiography (MRA) showed accessory renal arteries in both the right and left kidneys. Laboratory tests showed persistent hypokalemia and plasma renin activity was significantly elevated. The addition of Losartan 100 mg daily and Spironolactone 50 mg daily was needed to get blood pressure to goal.

Conclusion: Accessory renal arteries could lead to perfusion abnormalities, contribute to or exacerbate maintenance and control of blood pressure. Drugs affecting the renin-angiotensin-aldosterone pathway are important in the treatment of patients with accessory (aberrant) renal arteries if hypertension is renin mediated.

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