

Self-limited Hypertension Due to Kidney Infarction

Mario Funes Hernandez, Vivek Bhalla, and Robert Tristan Isom



A woman in her 40s presented for the management of new-onset hypertension. Four months before the presentation, she had undergone revision pancreaticoduodenectomy for a pancreatic neoplasm. The left kidney required manual displacement to facilitate the removal of the tumor and optimize radiotherapy. A post-surgical computed tomography scan showed a new, broad area of segmental hypoperfusion in the lower aspect of the left kidney (Fig 1, arrow). After the surgery, clinic blood pressures were consistently elevated, averaging 160/90 mm Hg. Her plasma renin activity and serum aldosterone level were 8.4 ng/mL per hour and 18 ng/dL, respectively. Losartan normalized the blood pressure. Subsequent imaging showed interval development of cortical atrophy of the previously ischemic parenchyma (Fig 1C, arrow). After several months, her blood pressure returned to normal; losartan was weaned and then discontinued. This case illustrates the development of hypertension due to kidney ischemia, followed by restoration of normotension, after the definitive loss of the affected renin-producing parenchyma. Renovascular hypertension affects 1%-5% of the patients with hypertension.¹ Regardless of the etiology, a pressure drop of 20 mm Hg distal to a flow-limiting lesion can stimulate renin release, potentially producing hypertension.² Renovascular hypertension is frequently caused by atherosclerotic kidney artery stenosis or fibromuscular dysplasia; however, other rare conditions that limit perfusion to the kidneys, such as external manipulation, have been described (Item S1).³⁻⁵ Here, we present an unusual case of self-limiting hypertension caused by intrasurgical manipulation and constriction of the kidney artery that resolved once complete kidney ischemia ensued.

SUPPLEMENTARY MATERIAL

Supplementary File (PDF)

Item S1: Causes of renovascular disease.

ARTICLE INFORMATION

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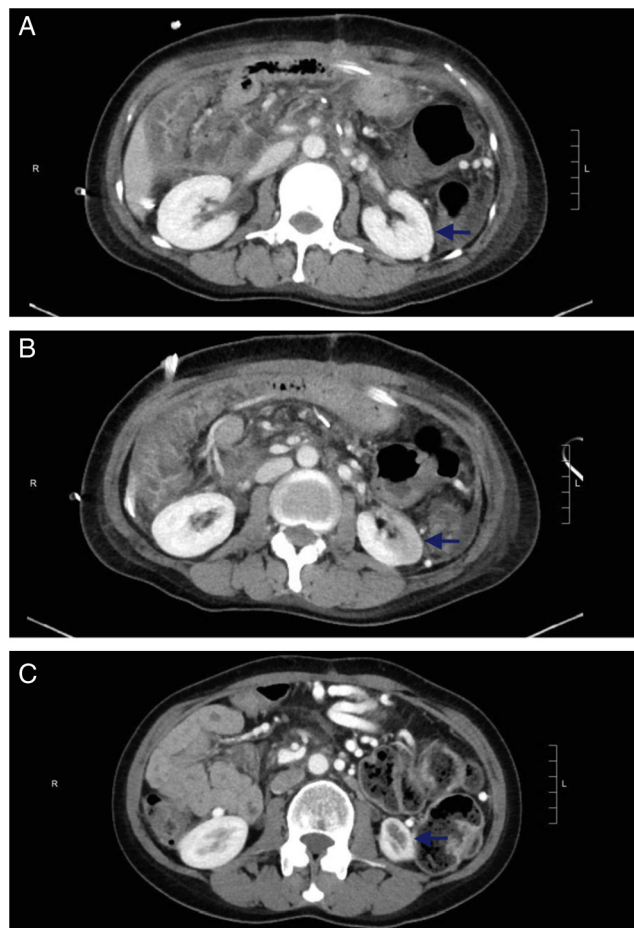


Figure 1. (A) A preprocedural computed tomography scan of the abdomen and pelvis with intravenous contrast with symmetric kidneys (arrow). (B) Postsurgical day 6 computed tomography scan with a new geographic region of hypoenhancement in the inferior pole of left kidney consistent with renal hypoperfusion/infarct (arrow). (C) A computed tomography scan 5 months after the surgery with focal atrophy of the inferior pole of the left kidney (arrow).

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