İnsidental Renal Arter Darlığı Olan Bir Vaka ve Literatürün Gözden Geçirilmesi

A Case With Incidental Renal Artery Stenosis and a Review of the Literature

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ÖZET

Periferik vasküler hastalığı olan hastalarda, renal arter darlığı insidental olarak sıklıkla saptanmaktadır. Bu vaka bildiriminde, 67 yaşında hipertansiyon ve renal fonksiyon bozukluğu olmadan önce periferik vasküler ve renal arter lezyonları saptanmış olan bir bayan tartışılmıştır. İnfrarenal aort rekonstrüksiyonu yapılacak olan hastalarda asemptomatik renal arter darlığı için onarım gerekli midir?

Anahtar sözcükler: insidental renal arter darlığı

ABSTRACT

Renal artery disease is frequently encountered as an incidental finding in peripheral vascular disease. In this case report, a 67-year-old lady with peripheral vascular and renal artery lesions identified at a time before they produced significant hypertension or renal dysfunction was discussed. Should renal artery repair be supported in these patients with asymptomatic atherosclerotic renal artery stenosis who undergo infrarenal aortic reconstruction?

Keywords: incidental renal artery stenosis

2006;15 (1) 49-51

Introduction

Renovascular disease appears to be increasing in prevalence, particularly in older subjects with atherosclerotic disease elsewhere. Its clinical manifestations and presentation are changing because of rapid advances in medical therapy and other comorbid events. Although fibromuscular dysplasia and other diseases affecting the renal artery can produce the syndrome of renovascular hypertension, atherosclerotic renal artery stenosis is the most common clinical entity. Atherosclerosis is a common cause of carotid, aortoiliac, coronary, and renal artery stenosis. Among patients with diffuse atherosclerosis, as many as 42% have renal artery stenosis (1). The prevalence of renal artery stenosis has varied from 4% to 50% in autopsy series of unselected patients, as many as 40% of whom had no history of hypertension (2,3). In patients with peripheral vascular disease, aortoiliac occlusive disease, or coronary artery disease, the prevalence of severe renal artery stenosis (more than 50%) ranges from 5% to 40% (4,5).

Atherosclerotic renal artery stenosis can produce a spectrum of manifestations, ranging from asymptomatic (incidental), identified during angiographic evaluation of other conditions, to progressive hypertension and accelerated cardiovascular disease with pulmonary edema and advanced renal failure. The management of renal artery disease remains highly controversial. This particular patient illustrates several important dilemmas facing the treatment of incidentally found atherosclerotic renal artery stenosis. The first is how to interpret 'incidental' renal artery stenosis detected during vascular

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imaging for other reasons. The second is how best to manage asymptomatic renal artery stenosis.

Case Presentation

A 67-year-old female patient was referred for pain and ulcerated lesions in the right foot. Dorsalis pedis and tibialis posterior pulses on the right foot were absent. Ischemic peripheric artery disease was the clinical diagnosis and aortoiliac angiography was taken. In our hospital, angiograms made for peripheral artery disease include views of the abdominal aorta and renal arteries. Aortoiliac angiography of the patient revealed right renal artery stenosis at the orifice estimated to be greater than 70% (Figure 1-2). During her follow-up, blood pressures were between 110/70 and 120/75 mmHg without any medication. Serum creatinine was 106 µmol/L. Femoropopliteal bypass operation was done. After the popliteal revascularization operation, the dorsalis pedis and posterior tibialis pulses were present and serum creatinine was 79 µmol/L. Renal ultrasonography revealed right kidney of 94 mm in length with parenchymal width of 16 mm and left kidney of 110 mm in length with parenchymal width of 20 mm. Parenchymal echogenicities of both kidneys were normal. No renal interventional procedures were undertaken. The patient was physically well and was discharged from the hospital.

Discussion

Renal artery stenosis associated with hypertension may result in chronic parenchymal ischemia and irreversible loss of renal function; this has been implied as the cause of end stage renal failure in 14% of patients older than 50 years of age (6). A major rationale for revascularization of incidentally found renal artery stenosis, therefore seems to be prevention of end stage renal failure. It must be recognized, however, that renal revascularization is a two-edged sword. The benefits of renal artery interventional procedures include the potential to improve systemic arterial blood pressures and to preserve or salvage renal function. Unfortunately, the risks of renal intervention are well known to nephrologists. The procedures themselves may threaten the viability of the affected kidney through vascular thrombosis, dissection, restenosis or atheroemboli. So there are arguments suggesting not to treat incidentally found renal artery stenosis. Why expose these patients to the potential complications, inconvenience, and costs of revascularization treatment when there is no immediate need to do so? The true significance of incidentally found renal artery stenosis remains unclear.

Some argue, therefore, that 'open arteries are better than closed renal arteries' and stenoses should be subjected to arterial repair routinely, usually with endovascular stents (7). Conversely, others argue that renal artery stenosis is commonly an incidental bystander with little effect on renal function (8). Follow-up studies of incidentally identified lesions managed without revascularization identify remarkably few cases of progression to advanced renal failure (9,10). If there were no risks or costs attributable to renal artery

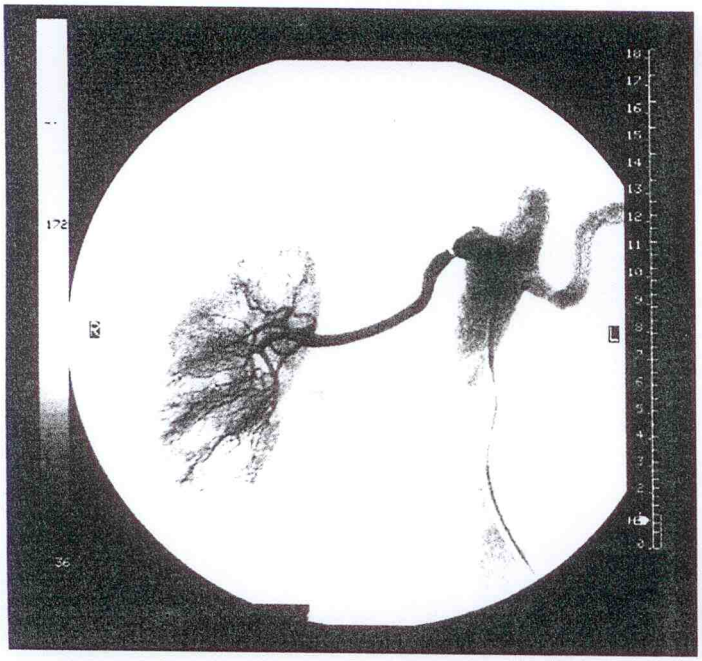


Figure 1. Right renal artery stenosis.

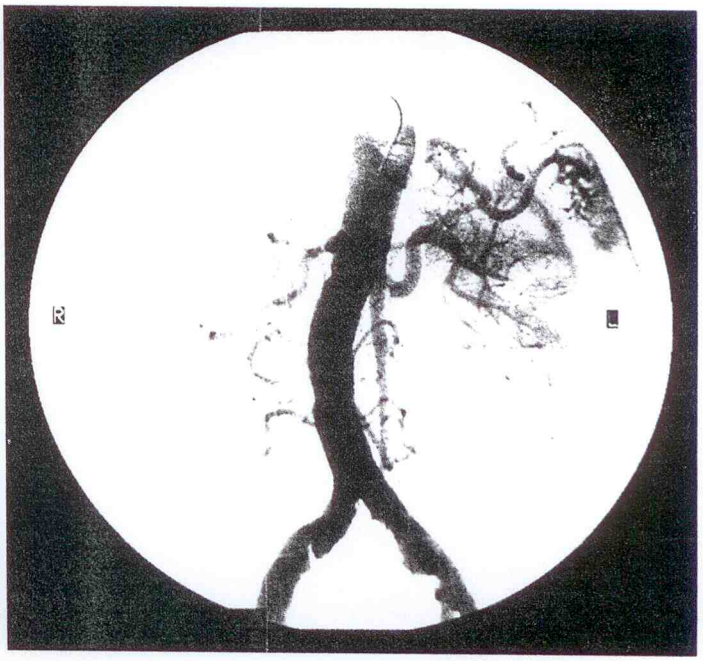


Figure 2. Aortoiliac occlusive disease.

procedures, this would be a far simpler discussion.

Clinicians need to be alert to the potential disease progression, with the potential for total renal artery occlusion and loss of viable renal tissue. Selection of patients for revascularization depends on individual balance of risks and benefits regarding the likely outcomes including both improvements in blood pressure control and preservation of renal function.

It must be emphasized that atherosclerosis remains a clear and present danger for this individual. Long-term studies of patients with renal artery stenosis indicate that these lesions represent an independent risk factor for mortality, whether they are treated or not (11). PTA-S of incidental, asymptomatic unilateral RAS may improve patients' quality of life at an acceptable incremental cost. However, this technology should be used hesitantly until a randomized comparison confirms its effectiveness (12). Several large randomized studies comparing revascularization of atherosclerotic renal artery stenosis with medical therapy are in progress (the STAR, the CORAL studies). Such studies will provide us with answers to these important clinical questions and improve the care of patients with this disease within the next several years.

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