A Forty-eight years gentleman, well known so- 
cial figure and the brother of our young colleague, 
presented with a history of hypertension for the last 
17 years. During this protracted period he had been 
using various medications to combat hypertension. 
The spectrum stretched from diuretics to β-blockers, 
calcium channel blockers and ACE-inhibitors. His 
blood pressure (BP) had displayed a variable re-
sponse to this wide range of drugs. The response 
had also been subject to fluctuations even to the 
individual drugs. According to the patient some-
times the response would be appreciable as evi-
dent from the scaling down of BP, while at times the 
BP would turn refractory and reluctant to show any 
signs of reasonable abatement. At presentation he 
was using Amlodipine 5mg and Metoprolol 50mg 
daily. On examination his BP was 160/100 mmHg. 
There was no radio-femoral delay or abdominal bruit. 
Cardiovascular examination was unremarkable. No 
other clinical clue could be found for the secondary 
cause of his hypertension. Laboratory investigations 
revealed normal renal function. A difference in the 
size of the two kidneys was noticed on ultrasonogra-
phy. The size of the right kidney was 9.2 x 3.6 cm and 
that of the left 11.1 x 5.3 cm. The outline of the smaller 
right kidney was reported to be smooth. His rela-
tively younger age, poor response to therapy and 
difference in the size of the two kidneys on ultra-
sonography prompted us to refer him to a tertiary 
care centre to dig out the possible renal cause for 

While treating a patient with hypertension we 
must search for its cause in every patient, especially 
in those with younger age, negative family history 
and severe or poorly responsive hypertension. 
Renal artery stenosis (RAS) has long been recognized 
as a cause of systemic hypertension. The diagnosis 
of renal artery stenosis is often overlooked because 
of the difficulty in establishing the diagnosis. It 
is a progressive but potentially correctable problem. 
It may be due to atherosclerosis or fibromuscular 
hyperplasia. Atheromatous disease commonly affects 
the proximal portion of renal artery. Fibromuscular 
hyperplasia results in bands of renal artery stenosis 
separated by dilated segments giving rise to the 
classical string of beads (Tasbeeh) appearance on 

Fig. 1. Pre-Stenting 
Fig. 2. Post-Stenting
angiography. It is noteworthy that RAS is not always functionally significant and is often found in normotensive patients being investigated for peripheral vascular disease. It may also be an incidental finding without functional significance in patients with hypertension. Hypertension is not an essential component of this disease. The prevalence of incidental renal artery stenosis among hypertensive patients undergoing coronary catheterization is significant. Renovascular hypertension is therefore defined as hypertension cured or improved by correction of RAS. GFR in the affected kidney is maintained by high Angiotensin II levels due to increased release of rennin from the juxaglomerular cells of the ischemic kidney. Hypertension results from retention of salt and water by both the kidneys. The constricted kidney retains salt and water because of reduced renal arterial pressure in this kidney whereas retention by normal kidney is due to the production of increased amount of rennin by the ischemic kidney. Renal scan after captopril (ACE inhibitor) will show much lowered GFR. Dehydration, hypotension and ACE inhibitors may cause renal failure if RAS is bilateral. Diagnostic pointers to RAS are vascular disease elsewhere, severe or drug resistant hypertension, abdominal bruit, high blood urea or proteinuria. Duplex /Colour Doppler sonography serves a vital role in its diagnosis. It represents a feasible and reliable technique in its detection. Diagnosis is established by renal angiography. Treatment is percutaneous renal angioplasty or bypass surgery. Percutaneous renal angioplasty is the first choice because it is simpler than and as effective as surgical reconstruction. Renal angioplasty can be done in selected patients with renal artery stenosis. The selection of patients for renal angioplasty is important in order to increase the clinical success rate. Clinical as well as angiographic follow-ups for the detection of the restenosis are mandatory.

REFERENCES

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