

## Letter to the Editor

### **Pre-operative renal function and selective renal vein renin levels as markers of favourable outcome in renovascular hypertension**

Invasive procedures for Renal Artery Stenosis (RAS) carry a higher risk of morbidity and mortality as opposed to optimal medical management for secondary hypertension. When open surgical repair is done, the mortality ranges from 1% - 4.7% for renal endarterectomy and 2.1% - 6.1% for an extra-anatomical bypass.<sup>1</sup> As such, the decision to opt for surgery has to be based on objective parameters that predict better outcomes in terms of renal function and blood pressure control postoperatively. Although 86.7% patients had unilateral RAS in their study, Rabbani et al<sup>2</sup> suggested normal preoperative renal function, high renal vein renin ratio and increased peripheral renin levels as markers of successful surgical outcomes in RAS. Whereas high preoperative renal vein renin ratio may indicate a successful outcome, normal renal function by measuring serum creatinine only and high peripheral renin levels may not hold true especially in cases with unilateral RAS. Serum creatinine is not a true representative of glomerular filtration rate and may even be normal in some unilateral cases.<sup>1,3</sup> Peripheral renin levels may also be normal in unilateral RAS due to the compensatory mechanism by contra-lateral kidney.<sup>1</sup> Literature review shows that combined measurement of renal vein renin ratio and intrarenal resistance indices (RI) have a better correlation for a successful outcome following an invasive procedure than renal vein renin ratio alone.<sup>4</sup> Therefore, pre and post operative nuclear renal scintigraphy scans should be done to objectively assess fractional flow to each kidney.<sup>1</sup> Though authors mention about DTPA scans, this information was not provided in

their results. Additionally, other techniques such as CE-MRA (Contrast Enhanced Magnetic Resonance Angiography) with RAS scoring may also be helpful in future in selecting patients for invasive procedures.<sup>5</sup> Currently, the choice between optimal medical management and invasive procedures for RAS is being debated and we hope that it would be clear once the results from various randomized clinical trials such as ASTRAL (Angioplasty and Stent for Renal Artery Lesions) and CORAL (Cardiovascular Outcomes in Renal Atherosclerotic Lesions) are published.<sup>6</sup>

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