



## Kidneys have a lot of nerve

Wearing my rheumatologist hat, I know that patients are not sent to me for management of their hypertension. Certainly, I play an active role in dictating aggressive blood pressure control in patients with renal vasculitis and lupus nephritis as an integral part of their therapy, and conversely, I contribute to the difficulty in controlling blood pressures of those relatively few patients to whom I recommend full-dose nonsteroidal anti-inflammatory drugs. But for the most part, I am an (occasionally silent) voyeur, observing the blood pressure management of patients who are managed by others.

It is striking how many patients show up in my office with blood pressures outside the range advocated by current guidelines. Some pressures “normalize” when I recheck them after quiet conversation, sometimes using a larger, more appropriately sized cuff. But most do not.

Many explanations are offered. The usual is that their pressure is “just up in the doctor’s office” (when else are they carefully checked?), but few of these patients have undergone 24-hour ambulatory monitoring to diagnose “white coat hypertension” or to assess whether a normal physiologic pattern of nocturnal “dipping” is present. Some are already taking one or more antihypertensive drugs, yet their blood pressure is above the recommended target. Infrequently are the drugs pushed to their maximally tolerated dose.

From my practice experience, it seems that most patients with imperfectly controlled blood pressure do not fit the definition of resistant hypertension (inadequate response to three appropriate drugs in maximally tolerated doses). But resistant hypertension is also a problem affecting many patients and is in need of a solution.

In this issue, Thomas et al (page 501) describe a novel approach undergoing clinical testing—catheter-based renal denervation. Early results are encouraging. But hypertension is a heterogeneous condition, and in a physiologically based therapy, the underlying pathophysiology may dictate the response and side effects of denervation in specific patients.

A recent study showed that denervation was effective in a few patients with chronic kidney disease, normalizing nocturnal dipping without further reducing renal function.<sup>1</sup> But careful attention will need to be focused on patients who are likely reliant on interorgan neural communication. What will be the systemic effect if a patient who has undergone renal denervation develops severe cirrhosis and is in need of hepatorenal reflexes, or if a treated patient develops new severe congestive heart failure or sleep apnea? As appropriately stated in this issue by Thomas et al and by Bhatt (page 498), some optimism for the promise of this technique is justifiable, but we really will need studies large enough to include appropriate subsets for the analysis of both safety and efficacy.

### REFERENCES

1. Hering D, Mahfoud F, Walton AS, et al. Renal denervation in moderate to severe CKD. *J Am Soc Nephrol* 2012 [Epub ahead of print].

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