

Tip 24 (December 2014)

### **24-hour ambulatory blood pressure monitoring in special populations**

I have referred previously in these pages to the value of 24-hour ambulatory blood pressure monitoring (24-h ABPM) (Tip 8 - November 2009). One of the important applications of this is in “special populations” where masked hypertension is more common. Masked hypertension refers to the situation where (treated or untreated) office/clinic blood pressure is normal but ambulatory awake-average, or asleep-average blood pressure is elevated. The clinical relevance of this is that masked hypertension (including isolated nocturnal hypertension) confers substantially higher cardiovascular risk compared with those with normal 24-h ABPM profile.

Some young physician-trainees at Auckland’s North Shore Hospital have just published a study looking at clinic blood pressure measurements vs 24-h ABPM in 98 stable renal transplant recipients<sup>1</sup>. The majority were already on antihypertensive medication, and they showed that 58% of the total had normal (controlled) clinic blood pressure, but elevated 24-hour average blood pressure, or overnight blood pressure. All of these subjects had their antihypertensive medication adjusted accordingly. In other words, relying solely on clinic blood pressure measurement in renal transplant recipients is very unreliable, and perhaps all should be subjected to periodic 24-hour blood pressure monitoring.

Renal transplant recipients are one of the “special populations” prone to masked hypertension, but two much larger affected populations are those with chronic kidney disease (even at the mild end of the spectrum), and those with diabetes mellitus. So think about ambulatory BP monitoring in these groups as well <sup>2</sup>.

Of course the benefits of 24-h ABPM are not confined to special populations. It is the best tool to diagnose white coat hypertension in the general population, and the British guidelines<sup>3</sup> now suggest that all individuals are offered a 24-h ABPM when the diagnosis of hypertension is queried and prior to starting medication.

1. Ambulatory vs office blood pressure monitoring in renal transplant recipients. Ahmed J, Ozorio V, Farrant F, van der Merwe W. *J Clin Hypertens* (published early on-line 29.11.14)

2. Decreasing sleep-time blood pressure determined by ambulatory monitoring reduces cardiovascular risk. *Hermida RC et al. J Am Coll Cardiol* 58: 1165–1173, 2011

3. <http://guidance.nice.org.uk/CG127>