Conclusions: This initial feasibility and safety study of renal nerve denervation mediated by low and intermediate β-radiation dosages indicates that this approach can cause substantial nerve damage while avoiding significant damage to the renal artery.

Methods: We compared the baseline office-based BP to long-term follow-up office-based BP, number of prescribed anti-hypertensive medications, major adverse cardiac and cerebrovascular events (MACCE) and hospital admissions in 8 patients whom had undergone RD from July 2007 to January 2008.

Results: Our cohort had a mean follow-up of 43 months and we found that office-based BP measurements were reduced by a mean of 309 mmHg when compared to baseline measurements (p<0.003 systolic; p<0.09 diastolic). The mean number of prescribed anti-hypertensive medications remained stable throughout the follow-up period (4.88 medications pre-treatment vs 4.1 medications at follow-up; p=NS). Two patients required hospitalisation for late cerebrovascular events. There were no cardiac events reported.

Conclusions: This is the longest reported follow-up of renal sympathetic denervation patients. We have demonstrated a significant and durable decrease in blood pressure. However, there has been no reduction in the number of prescribed anti-hypertensive medications.

Background: Resistant hypertension is associated with significant cardiovascular morbidity and mortality and it poses a significant treatment challenge for physicians. The treatment of resistant hypertension by renal sympathetic denervation (RD) has demonstrated excellent short-term reductions in blood pressure (BP) at six-months as reported by the Symplicity HTN-2 Investigators. The future role of RD is evolving and long-term results will clarify its durability. Here we assess the long-term results in the first cohort of patients to be treated with RD in Australia.