**RENAL SYMPATHETIC DENERVATION: A SYSTEMATIC ANALYSIS**

S. Sontineni, **O. Bansal**

Creighton University, Omaha, NE, USA

Introduction: Hypertension is a major cardiovascular risk factor with significant morbidity and mortality. Blood pressure control remains suboptimal in 50% of patients on pharmacotherapy. Percutaneous renal sympathetic denervation (RSD) is an emerging strategy to achieve target BP control.

Methods: We searched the published literature using terms “renal nerve denervation”, “renal denervation”, “renal denervation and hypertension”, “renal artery ablation”, “renal artery denervation”, “renal sympathectomy”. The criteria for inclusion: studies with patients having baseline systolic blood pressure > 160 mmHg on 3 or more Antihypertensives (except > 150 mmHg in DM-2) who underwent RSD and reporting follow up BP for a minimum of 2 weeks.

Results: Systematic review of published studies between Jan 2009 to March 2012 yielded a total of 13 manuscripts (2 randomized studies, 4 case reports and 7 case control studies). A total of 395 subjects meeting the inclusion criteria underwent RSD therapy. The follow up blood pressure after renal sympathetic denervation were recorded between 2 weeks to 24 months. The mean reduction in SBP was 26 + 4.9 mmHg. The mean number of medications did not change significantly following renal sympathetic denervation. The most common complications were periprocedural visceral pain amenable to analgesic therapy and asymptomatic bradycardia. More serious complications such as renal artery dissection and access site hematoma were uncommon. In addition, no significant change in the GFR was observed following the procedure.

Conclusion: Renal sympathetic denervation is an emerging therapeutic option for resistant hypertension with demonstrated safety.