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**MODIFICATION OF SYMPATHETIC TONE BY RENAL ARTERY DENERVATION CAUSES EARLY, SIGNIFICANT AND SUSTAINED ARTERIAL DE-STIFFENING**

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Objective: To examine whether Sympathetic Renal Denervation (RDN) might have an additive value for cardiovascular risk decline beyond lowering blood pressure.

Methods: 73 selected patients with resistant hypertension had RDN performed. Arterial stiffness was measured, using applanation tonometry, before the procedure, 24 to 48 hours following the procedure and subsequently 1, 3 and 6 months after the RDN.

Results: Within 48 hours RDN significantly reduced carotid-femoral aortic pulse wave velocity (AoPWV) from 11.3 ± 2.7 to 10.3 ± 2.6 m/s (p = 0.001), the reduction was sustained at months 1, 3, and 6. Early changes of AoPWV value did not correlate with office systolic or diastolic BP (p = 0.07, p = 0.45; p = 0.33). Furthermore, the higher the initial AoPWV value, the greater the reduction of AoPWV was observed after 6 months: Q1 8.4 ± 1.1, Δ 0.05 ± 1.6/Q2 10.1 ± 0.4, Δ 1.1 ± 1.4/Q3 12.2 ± 0.8, Δ 1.8 ± 1.7/Q4 15.3 ± 1.7, Δ 2.8 ± 2.1, (p = 0.002).

Conclusion: A sustainable effect on AoPWV, observed in our study as early as within 24–48 hours following the procedure and up to 6 months, suggests an additional RDN effect on reducing arterial stiffness and cardiovascular risk.

The de-stiffening effect was greater in patients with high initial AoPWV.

**P65**

**REMOTE ISCHAEMIC PRECONDITIONING REDUCES KIDNEY INJURY IN VASCULAR SURGERY**

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Background: Perioperative acute kidney injury has been found to occur in 12% of patients undergoing lower limb revascularisation (Arora et al., 2013). The aim of the current double-blind, randomised and sham-controlled pilot study was to determine the effect of remote ischaemic preconditioning (RIPC) in perioperative renal damage in vascular surgery.

Methods: Patients undergoing elective lower limb revascularisation surgery between January 2016 and February 2018, who gave full informed consent, were recruited. Four episodes of 5 minutes of upper limb ischaemia were applied instead of ischaemia. Blood samples were collected preoperatively and 20–28 hours after surgery.

Results: 10 patients with severe AS (aged 75.8 ± 7.8 years) and preserved EF (62.2 ± 7.1%) were studied before and 48–72 hours after AVR. There was a significant reduction in mean arterial pressure (MAP) (pre:96.9 ± 12.3 mmHg vs post:83.4 ± 11.2 mmHg, p = 0.012) and AP (pre:20.8 ± 11.4 mmHg vs post:11.0 ± 5.8 mmHg, p = 0.017). EF1 improved significantly (pre:18.7 ± 6.8% vs post:28.9 ± 12.4%, p = 0.043), whilst EF did not change. aPWV didn’t change significantly after AVR. The change in EF1 was negatively associated with change in AP (β = -0.841, p = 0.002) (Figure 1). This relationship persisted after adjustment of age, gender, BMI, baseline MAP and aortic valve area (β = -1.095, p = 0.033).

Conclusion: In patients with AS and preserved EF, an improvement of early ejection is associated with reduction in augmentation pressure after AVR.

![Figure 1. Central aortic pressure waveforms in one subject pre (blue line) and post (red line) AVR.](image)

AVR: Augmentation pressure reduced from 16mmHg to 4mmHg, whilst EF increased from 17.7% to 37.7% after AVR.