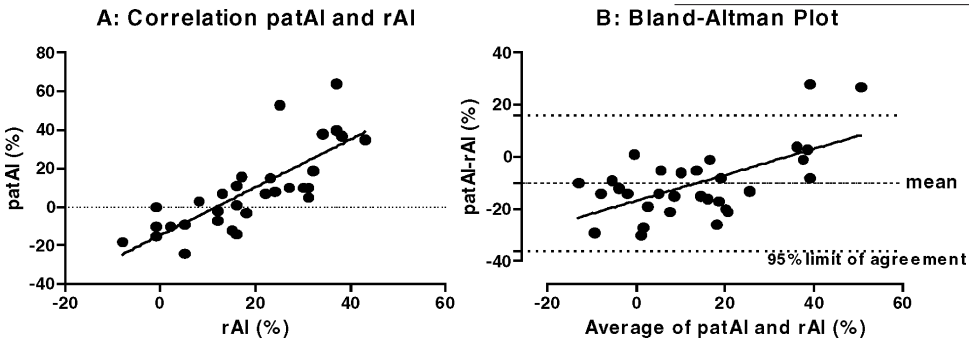
lated from the fingertips by peripheral arterial tonometry (patAI). Therefore we sought to determine whether AI calculated from patAI provides similar information to that of rAI in patients with AF.

Methods: Thirty-five consecutive patients with paroxysmal AF (age 59 ± 12) were examined during sinus rhythm. For each subject, rAI and patAI were recorded using radial applanation tonometry (SphygmoCor) and using peripheral arterial tonometry (EndoPat2000).

Results: Overall, rAI (19 ± 13%) was significantly ($p < 0.005$) higher than patAI (9 ± 21%) but both indices were highly correlated to each other. The *R* value was 0.79 ($p < 0.0001$) and the *R*-squared value was 0.62 (Fig. A). Bland–Altman plot of the difference between the two techniques (patAI-rAI values) versus their mean demonstrates that patAI under-estimates augmentation index (Fig. B). The bias calculated over the range of averaged concentrations was −10%, however, it is not constant over this range.



Conclusion: AI can be measured by radial artery tonometry and peripheral arterial tonometry. There is a good correlation between the AI calculated from both techniques; the lack of uniform bias between the values suggests that the two techniques are not interchangeable as estimates of arterial stiffness in patients with AF.

doi:10.1016/j.hlc.2011.05.031

29

Does Resveratrol Prevent Maladaptive Electrophysiological and Vascular Alterations in L-NAME Induced Hypertensive Rats?

C. Pullen*, A. Fenning, F. Coulson, R. Vella, K. Connolly, D. Jackson

CQ University, Australia

Resveratrol has demonstrated various possible cardioprotective mechanisms, which may prove to be beneficial in the treatment and prevention of various complications seen in conditions such as diabetes and hypertension. Such disease states are widely understood to result in various biochemical alterations including an increase in oxidative stress and inflammation and a decrease in the bioavailability of the potent vasodilator nitric oxide. The aim of this study was to investigate the potential protective effects of resveratrol in preventing maladaptive vascular and cardiovascular alterations in a rodent model of induced hypertension. Animals commenced treatment at eight weeks of age for a total of eight weeks (L-NAME (400 mg/L) administered in the drinking water supplied and 2 mg/kg/day resveratrol via oral gavage). Vascular organ bath studies were carried out on thoracic aorta rings and mesenteric vessels. Electrophysiological studies were carried out on the left ventricular papillary muscle and various action potential parameters examined. L-NAME induced hypertensive animals displayed a marked increase in action potential durations at 20, 50 and 90% repolarisation (17.42 ± 2.35; 30.75 ± 5.31; 93.58 ± 15.28 respectively) in comparison to healthy control animals (13.19 ± 0.65; 20.38 ± 1.75; 54.00 ± 4.66 respectively). This prolongation was not significantly prevented in resveratrol treated L-NAME animals. Vascular tissues from L-NAME animals also demonstrated decreased contractile responses to noradrenaline. These responses were significantly improved in resveratrol treated L-NAME animals. As expected, L-NAME treated animals displayed a reduced relaxation response to acetylcholine and sodium nitroprusside. There was no significant improvement in relaxation in resveratrol treated L-NAME animals.

doi:10.1016/j.hlc.2011.05.032

30

Dynamic Synchrotron Imaging of Diabetic Rat Coronary Microcirculation In Vivo

M. Jenkins[1,2,*], A. Edgley[1,2], T. Sonobe[3], R. Brown[2], Y. Fujii[3], D. Kelly[1], K. Umetani[4], D. Schwenke[5], M. Shirai[3], J. Pearson[2,6]

[1] *Department of Medicine, St Vincents Hospital, University of Melbourne, Melbourne, Australia*
[2] *Department of Physiology, Monash University, Melbourne, Australia*
[3] *National Cardiovascular Center Research Institute, Suita, Japan*
[4] *Japan Synchrotron Radiation Research Institute, Harima, Japan*
[5] *Department of Physiology, Otago University, Dunedin, New Zealand*
[6] *Australian Synchrotron, Melbourne, Australia*

In diabetes, long term micro- and macro-vascular damage often underlies the functional decline in a number of organs. Using synchrotron imaging we are now able