DISCUSSION.
The cold pressor test provokes coronary artery constriction and tachycardia in patients with coronary artery disease. This may well mimic the hemodynamic stresses that a patient encounters per-operatively. In this series of patients the 22 site mapping system showed ischemia with normal thallium scans. The non invasive test may provide a low cost alternative to risk identification in patients with coronary artery disease presenting for major non cardiac surgery and provide a means for providing a risk reduction strategy, as well as optimal ECG lead monitoring perioperatively.

REFERENCES.

TITLE: HEMODYNAMIC EFFECTS OF THE PDE INHIBITOR PIROXIMONE TO ASSIST IN WEANING FROM CPB.

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INTRODUCTION: Patients undergoing complicated CABG surgery may require pharmacological support to achieve satisfactory weaning from CPB. Conventional therapy includes intropes sometimes in combination with vasodilators. We describe the initial results obtained with the PDE inhibitor piroximone (P) which has not previously been used following cardiac surgery.

METHODS: Following hospital ethical committee approval and informed consent, patients with a reduced ejection fraction (<50%) who were also all receiving B-blockers and diuretic therapy, undergoing open heart surgery were investigated (currently, n=7). Prior to discontinuing CPB a bolus of 0.5mg.kg⁻¹ P was administered over 10 minutes, immediately followed by 6µg.kg⁻¹.min⁻¹ as a continuous infusion, 5 minutes after commencing the infusion weaning from CPB was attempted. Measurements were performed at fixed intervals up to 6 hours after weaning, with a pre-bypass reading as control (C). Statistical analysis was with ANOVA for repeated measures. Mean values ±SD are given and p<0.05 taken as significant.

RESULTS: Mean bypass and aortic cross-clamp times were 164±59 and 72±64 mins respectively in the group studied, mean age 65±6 years. All patients were successfully weaned at the first attempt and made uneventful recoveries.

Cardiac index (CI) increased significantly at all times from C (1.8±0.47 l.min⁻¹.m⁻²) with mean increases of between 29% and 57%

Heart rate (HR) increased significantly from pre-bypass C of 57±10 beats.min⁻¹, to a maximum of 96±5 beats.min⁻¹.

Mean arterial pressure (MAP) was unchanged during the study period from a C of 75±8 mmHg with a range of values between 63±14 and 96±8 mmHg, not significant at any measurement time.

Central venous and pulmonary capillary wedge pressures (CVP, PCWP) were not different between C and after CPB.

Systemic vascular resistance (SVR) was significantly reduced at all measurement times after CPB with a minimum decrease of 16% and maximum of 39% from C (1.770 dynes.sec⁻¹.cm⁻⁵).

Mean values for pulmonary vascular resistance (PVR) were lower than C at all measurement times (11-42%) but only achieved significance at 30, 90 and 120 minutes.

DISCUSSION: P has been demonstrated to be an effective agent in facilitating weaning from CPB in a group of patients who had impaired ventricular function pre-operatively. A marked and sustained increase in CI was observed combined with a decrease in SVR and no significant change in MAP. The chronotropic effect was statistically significant but mean HR was in an acceptable range of 82 and 96 beats.min⁻¹ at all times and no significant arrhythmias were detected. There appeared to be a tendency for PVR to be reduced. The results of this open study suggest further investigation of P against other agents follows cardiac surgery warranted.