Methods 32 patients with SSS or AVB associated chronic heart dysfunction were divided two groups RA-URIS pacing group (13 cases) and RA-RVA pacing group (19 cases). The parameters including left ventricular mass index (LVMI), left ventricular ejection fraction (LVEF) and 6 min walk test (6-MWT) were compared between two groups in pre-pacing and in follow up 24 months after pacing.

Results There were no difference on LVEF, LVMI and 6-MWT between two groups before pacemaker implanted. But after 24 months for pacing therapy in RA-URIS group, there was significant increase in LVEF (48.3±10.1 vs 40.7±5.4, p<0.05), 6MWT (386±69 vs 350±78, p<0.05) and decrease in LVMI (102.5±16.3 vs 120.1±18.5, p<0.05) Meanwhile, LVEF, 6-MWT (48.3±10.1 vs 48.7±5.5, 386±69 vs 329±91, p<0.05) were increased in RA-RVA group significantly compared with that in RA-RVA-LVPL pacing. The CO of RA-RVA-LVPL pacing was increased than that in RA-RVA-LVPL pacing. CO in RA-cHisB pacing was increased by 8.7% than that in RA-RVA-LVPL pacing. CO in RA-RVA-LVPL pacing was increased than that in RA-RVA pacing. CO in RA-cHisB-LVPL pacing was significantly enhanced relative to baseline value (3.4±0.5 vs 4.0±0.4 mmol·L⁻¹·h⁻¹, p<0.05). There was no symptomatic hypotension or other adverse events appeared to be associated with rhBNP administration under this study.

Conclusions Intraoperative injection of rhBNP results in more rapid, strong and prolong haemodynamic improvement than that of NIT in AMI patients with ADHF as well as is feasible and safe in clinic as a selective agent for AMI patients with ADHF.

Objective To compare the effects of biventricular synchronous pacing with different pacing site on coronary Blood flow (CBF), myocardial oxygen consumption (MVO₂) and cardiac work efficiency (CWE).

Methods RA-cHisB and RA-RVA sequential pacing, RVA-LVPL and RA-cHisB-LVPL pacing were randomly performed in 14 dogs with general-anaesthetised, opened chest and artificial-ventilation. SNR was as self-control. Every pacing mode was to capture SNR for 20 min with a recovery of physiologic parameters for 10 min, and then shift another pacing mode in turn. CBF and CO were measured by a electromagnetic flowmeter. Blood sample were respectively collected from the catheters in left ventricle and coronary sinus for getting the arterial O₂ saturation (SaO₂), coronary sinus O₂ saturation (ScO₂) and Hgb.

Results No significant difference in CBF among the RA-cHisB-LVPL, RA-RVA-LVPL and RA-cHisB pacing were found. CBF in RA-RVA pacing was decreased than that in RA-cHisB-LVPL, RA-RVA-LVPL and RA-cHisB pacing. MVO₂ among the all groups had no significant changes compared with each other. CO of RA-cHisB, RVA-LVPL and cHisB-LVPL pacing were increased as compared with that in RA-RVA pacing (p<0.01). CO in cHisB-LVPL pacing was increased by 6.7% than that in RVA-LVPL pacing, CO in RA-cHisB pacing was increased by 8.7% than that in RA-RVA pacing. CO in RA-RVA-LVPL pacing was increased as compared with that in RA-cHisB and cHisB-LVPL pacing, respectively. CO in RA-cHisB-LVPL pacing was increased than that in RA-RVA-LVPL pacing. The changes of CWE were similar to that of CO among all pacing groups. CBF in RA-cHisB-LVPL pacing was significantly enhanced as compared with that in RA-cHisB and RA-RVA-LVPL pacing. Conclusions RA-cHisB-LVPL pacing might significantly increase CBF and CWE without the increment of MVO₂.

Conclusion The biventricular synchronous pacing have the beneficial effects on maintaining the balance between myocardial oxygen supply and consumption and increasing CWE by enhancing the cardiac ejection performance.