

Supplement information

1. Abdominal coarctation operation

The spot light of this research is the abdominal coarctation operation was more homogeneous compare with other research. In this study, we performed coarctation operation in 56 rats and then take the abdominal ultrasound of aorta blood speed 3 weeks after operation. 20 rats were excluded from the original study because of death within three weeks (8 rats) and systolic abdominal aorta stenosis (peak speed lower than 2 m/s, 12 rats). And the 36 success produced abdominal coarctation were randomly divide into non-treatment, Carvedilol and Salvianolic acid B group.

2. Methodology explanation in this experiment

Histopathology research could provide us some information about the myocardium. However, the result of histopathology and the molecular test was reported multiple times in this model¹⁻⁴. To prove our results were in consist of other researchers, we used ultrasound to prove the stenosis was not released during the monitoring of echocardiography. And all of the rats in which the post stenosis blood peak velocity lower than 200 cm/s were discard in this experiment. At the same time, the hypertrophy was confirmed from the calculation of the LV mass. This confirmation makes us believe the histopathology result will consist of another researcher.

The IVPG technique has been wildly used in human patients in from children in the womb to geriatrics patients and the other animal including dogs, rabbits, and rats, and the consistency was confirmed based on the invasive catheter performed at the same time. The IVPG itself could provide us enough information about the hemodynamic and cardiac status. Therefore, histopathology might be not necessary to prove our explanation.

3. LA volume could provide us some information about the pressure inside the LA. However, the LA dilation was not easy to recognize by echocardiography in rats and its sensitivity was lower than the tissue Doppler index. So we use the tissue Doppler index instead of LA volume evaluation.

4. Interobserver and intraobserver variability were not analyzed because the IVPG variability was stable and this technique were been used in animal before^{5,6}

Reference

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