

Objectives Heart failure is the end stage of kinds of functional or structural cardiac diseases. Sympathetic nervous system activation promotes the progress of heart failure to terminal stage. In recent 2 years, transcatheter renal denervation therapy has been demonstrated to be safe and effective for the control of blood pressure of resistant hypertension patients. However, the safety and effectiveness of transcatheter renal denervation therapy for the treatment of heart failure is unclear. Based on the above consideration, we conduct the SouthWest China's renal artery ablation study for heart failure patients (SWAN-HF Study) from July of 2011.

Methods Patients who suffered from heart failure and persisted on standard drug therapy for more than half a year could be enrolled in SWAN-HF Study. The patients will be performed renal artery angiography and renal sympathetic nervous modification therapy after they were screened by the inclusion and exclusion criteria. All of the participants were followed up at least 3 months after the procedure of angiography and sympathetic modification therapy.

Results Between July 2011 and February 2012, a total of 12 patients had been enrolled in SWAN-HF study. Eight patients received renal sympathetic modification therapy and completed 3 months follow up. The result of 3 months showed NYHA functional classification were improved significantly. SMWD of the eight patients was significantly improved at 3 months (531.4 ± 60.0 m vs 595.8 ± 53.7 m; $p=0.0001$); The 3 months result of ultrasonic cardiographs (UCG) showed that LAD was also significantly improved (42.8 ± 3.8 mm vs 37.9 ± 4.1 mm; $p=0.025$); The comparison of IVPWTAM was 6.9 ± 2.9 mm vs 9.2 ± 3.2 mm, which had significantly statistical differences ($p=0.021$). The other variables of UCG including RAD, LVEDD, LVESD, RVEDD, EF, and CO all had the trend of improvement at 3 months comparing with that of the baseline level, which haven't reached to the significant differences in statistics.

Conclusions The primary results showed that renal sympathetic modification therapy for heart failure patients by saline infusion electrode catheter also had reliable safety and effectiveness. Transcatheter renal sympathetic nervous modification therapy could not only improve the heart function of patients including SMWD and NYHA functional classification, but also decrease the dimensions of atrium and ventricle, and even suppress or reverse myocardial remodelling process of heart failure.

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**TRANSCATHETER RENAL SYMPATHETIC
MODIFICATION THERAPY FOR HEART FAILURE:
PRIMARY EXPERIENCE OF RENAL DENERVATION
THERAPY IN HEART FAILURE PATIENTS IN CHINA**

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