

## Abstract 5912: Beneficial Effects of Waon Therapy on Patients with Chronic Heart Failure: Results of Multicenter Study

Chuwa Tei ; Masaaki Miyata ; Takashi Kihara ; Takuro Kubozono ; Yoshiyuki Ikeda ; Takuro Shinsato ; Shoji Fujita ; So Kuwahata ; Shuichi Hamasaki  
Kagoshima Univ, Kagoshima, Japan

### Background:

We have reported that Waon therapy, the repeated use a dry sauna at 60°C, improves cardiac and vascular function in patients with chronic heart failure (CHF). We conducted a prospective multicenter case-control study to confirm the clinical efficacy and safety of Waon therapy on CHF at 10 participating hospitals.

### Methods:

Patients (n=188) with CHF were enrolled and treated with standard therapy for at least one week, and then were randomized to a Waon therapy group (n=112) or a Control group (n=76). All patients continued conventional treatment for an additional two weeks. The Waon therapy group was treated with a far infrared-ray dry sauna at 60°C for 15 minutes and then kept on bed rest with a blanket for 30 minutes each day for 2 weeks. Chest radiography, echocardiography, and plasma levels of brain natriuretic peptide (BNP) were measured before and 2 weeks after treatment.

### Results:

NYHA functional class significantly decreased after 2 weeks of treatment in both groups. Chest radiography also showed a significant decrease of the cardiothoracic ratio in both groups (Waon therapy: 57.2±8.0 →55.2±8.0%, p<0.0001; Control: 57.0±7.7 →56.0±7.1%, p<0.05). In addition, echocardiography demonstrated that the left ventricular diastolic dimension (LVDd), left atrial dimension (LAD), and ejection fraction (EF) significantly decreased in the Waon therapy group (LVDd: 60.6±7.6 →59.1±8.4 mm, p<0.0001; LAD: 45.4±9.3 →44.1±9.4 mm, p<0.05; EF: 31.6±10.4% →34.6±10.6%, p<0.0001), but did not change in the Control group (LVDd: 58.4±10.3 →57.9±10.4 mm; LAD: 46.3±9.7 →46.2±10.1 mm; LVEF: 36.6±14.1 →37.3±14.0%). The plasma concentration of BNP significantly decreased in the Waon therapy group, but did not change in the Control group (Waon therapy group: 542±508 →394±410 pg/ml, p<0.001; Control group: 440±377 →358±382 pg/ml). During the study, none of the patients treated with Waon therapy had worsened clinical symptoms.

### Conclusion:

In this prospective multicenter study, we confirmed that Waon therapy is safe, improved clinical symptoms and cardiac function, and decreased cardiac size in CHF patients. Waon therapy is an innovative and promising therapy for patients with CHF.

(*Circulation*. 2008;118:S\_1028.)

© 2008 American Heart Association, Inc.

[http://circ.ahajournals.org/cgi/content/meeting\\_abstract/118/18\\_MeetingAbstracts/S\\_1028-a](http://circ.ahajournals.org/cgi/content/meeting_abstract/118/18_MeetingAbstracts/S_1028-a)