**Symposium1 [ Waon therapy ]**

**S1-3 Effect of Waon therapy on vasospastic angina**

Katsuhisa ISHII¹, Akihiro KOMASA¹, Kensuke KUWABARA¹, Takahiro NAGAI¹, Tasuhiko MATSUOKA¹, Eiji TADA¹, Yutaka SEINO¹, Chuwa TEI²

1) Department of Cardiology, Kansai Electric Power Hospital, Japan
2) Kagoshima University, Kagoshima, Japan

**Background:** Transient severe myocardial ischemia in patients with coronary vasospasm impairs regional left ventricular (LV) relaxation which persists for several weeks.

**Methods:** We studied 40 consecutive patients (17 women, 52 ± 8) with vasospastic angina (VA) who had recurrent angina despite treatment with the conventional calcium channel blockers (CCBs) during the follow-up period. These 40 patients were registered and randomly assigned to either Waon therapy group or the high dose of CCBs therapy. In Waon therapy, the patients were treated with a far infrared-ray dry sauna at 60 degrees centigrade for 15 minutes and then kept on bed rest with a blanket for 30 minutes for 2 weeks. Strain imaging (SI) was acquired in the LV mid-papillary short-axis view and radial strain was measured using 2D speckle tracking echocardiography. The peak values of strain at the closure of aortic valve (A) and at the one third diastole duration (B) were measured. The SI-diastolic index (SI-DI) was determined as (A-B)/A 100%. The repeated SI study was conducted 1 weeks and 2 weeks in Waon therapy. Chest pain was scored by a numeric pain intensity rating scale.

**Results:** The mean SI-DIs was 20 ± 17% in the 45 territories perfused by the coronary arteries with spasm at baseline. The SI-DI significantly improved at 1 weeks (50 ± 14%, p<0.001), and further improved after 2 weeks (77 ± 10%, p<0.001). In contrast, the index did not improve in the high-dose CCBs therapy group. The pain score significantly decreased after 2 weeks of Waon therapy.

**Conclusion:** The repeated Waon therapy improved the LV postischemic diastolic dysfunction and chest pain in patients with VA.

**Keywords:** Coronary vasospasm, Postischemic diastolic dysfunction, Strain echocardiography