**2C14-2** The effect of stroop test on cardio-respiratory responses before exercise and immediately after beginning exercise

Hidehiro NAKAHARA, Shin-ya UEDA, Hajime KANAI, Kou MANABE and Tadayoshi MIYAMOTO
Morinomiya University

**Background.** The aim of this study was to investigate the effect of stroop test on respiratory responses and heart rate (HR) before and during exercise. **Methods.** Twelve healthy normotensive males performed the following three experimental tasks in a random fashion; (1) paying attention to exercise task before and during exercise (C), (2) paying attention to stroop test before and during exercise (ST), (3) resting condition. Borg scale, exercise time, HR and respiratory variables such as minute ventilation, tidal volume, respiratory rate, and oxygen consumption were continuously measured for 6 min prior to exercise and during exercise for all experimental conditions. Exercise test was conducted at 100% of the maximal work rate and was performed until voluntary fatigue. **Results.** Condition C condition had significantly higher level of HR response than ST condition prior to exercise (p<0.05). C condition also had significantly lower level of respiratory rate than ST condition immediately after beginning exercise (p<0.05). On the other hand, no significant differences were found for the other variables between C and ST conditions. **Conclusions.** These findings suggested that stroop test can be depressed anticipatory HR response before the start of exercise and ventilator efficiency immediately after exercise. **Key words:** stroop test, heart rate, respiratory responses, before exercise, after exercise

**2C14-3** Lifestyle modification decreases central pulse pressure in overweight and obese men

Toru Yoshikawa¹, Kiyoyo Tanaka¹, Seiji Maeda¹
¹University of Tsukuba

**Purpose:** Central pulse pressure is a strong predictor of cardiovascular disease. It is known that central pulse pressure in obese individuals is higher than non-obese individuals. However, the effect of lifestyle modification on central pulse pressure has not been clarified. The purpose of this study was to investigate the effect of lifestyle modification on central pulse pressure in overweight and obese men.

**Methods:** Twenty-three overweight and obese men participated in this study (age, 47 ± 2; body mass index, BMI, 30 ± 1 kg/m²). We measured central pulse pressure, aortic stiffness (i.e., carotid-femoral pulse wave velocity, cfPWV), and leg arterial stiffness (i.e., femoral-ankle pulse wave velocity, faPWV) before and after a 12-week lifestyle modification program (well-balanced 1680 kcal/day diet and brisk walking for 40-60 min/day, 3 days/week).

**Results:** After the 12-week lifestyle modification, body mass and BMI decreased significantly. Central pulse pressure, cfPWV, and faPWV significantly decreased after the 12-week program. Furthermore, we also found a significant positive relationship between the changes in central pulse pressure and those in cfPWV, but not faPWV.

**Conclusion:** Lifestyle modification decreased central pulse pressure in overweight and obese men. Furthermore, there was a positive correlation between the changes in central pulse pressure and those in aortic stiffness. These results suggest that decreased aortic stiffness contributes to a decrease in central pulse pressure in overweight and obese men.