P224
Relationship between high altitude de-adaptation and acute high altitude response, cardiac function injury after returning to lower altitude population exposure to high altitude environment
Q. Zhou
Department of High Altitude Disease, Third Military Medical University, Chongqing, China, People’s Republic of
Objective: to assess the relationship between high altitude de-adaptation response (HADAR) and acute high altitude response (AHAR), cardiac function injury. Methods: Cardiac function indicators were assessed for 96 men (18 - 35 years old) deployed into a high altitude (3700 - 4800 m) environment requiring intense physical activity. The subjects were divided into 3 groups based on AHAR at high altitude: severe AHAR (n = 24), mild to moderate AHAR (Group B, n = 47) and non-AHAR (Group C, 25); and based on HADAR: severe HADAR (Group E, n = 19), mild to moderate HADAR (Group F, n = 40) and non-HADAR (Group G, n = 37) after return to lower altitude (1,500 m). Results: Cardiac function indicators were measured after 50 days at high altitude and at 12 h, 15 days, and 30 days after return to lower altitude. Controls were 50 healthy volunteers (Group D, n = 50) at 1,500 m. Significant differences were observed in cardiac function indicators among groups A, B, C, and D. AHAR score was positively correlated with HADAR score (r = 0.863, P < 0.001). Significant differences were also observed in cardiac function indicators among groups D, E, F, and G. 12 h and 15 days after return to lower altitude. There were no significant differences in cardiac function indicators among the groups, 30 days after return to lower altitude, compared to group D. Conclusion: The results indicated that the severity of HADAR is associated with the severity of AHAR and cardiac injury, and prolonged recovery.

Cardiovascular Research Supplements (2014) 103, S9–S46
Published on behalf of the European Society of Cardiology. All rights reserved. © The Author 2014. For permissions please email: journals.permissions@oup.com