

exercise training. Also, a lung function test and a graded exercise test were conducted after 10 weeks of exercise training

Data Analysis

Descriptive statistics were computed for demographic data. To determine the differences in all study variables before and after 10 weeks of exercise training, a paired t-test was used. Because all study variables became non-normal distributed after all subjects were divided into 2 groups, the Mann-Whitney test (a nonparametric method) was performed to determine differences in all study variables between genders. Also, the Mann-Whitney test was used to test differences between patients who had undergone OHT less than 1 year and patients who had undergone OHT over 1 year. In all data analyses, alpha was set at a 0.05 level of significance. All data were analyzed by the SPSS/PC+ statistical software package.

RESULTS

Sample Characteristics

Thirteen subjects (9 males, 4 females) had undergone OHT and met the criteria for inclusion from a medical rehabilitation hospital in Taipei city. The mean

age of the subjects was 56 (± 7.6) years. All subjects were married. The mean number of years of education was nearly 9 (± 5.8) years. The average months after heart transplantation of the sample was nearly 24 (± 24.8) with a range of between 2 and 72 months. The mean age of donors was 23.8 (± 7.7) years. All donors were younger than recipients. The age differences between donors and recipients was 31.5 (± 11.1) years (Table 1).

All subjects participated in a 10-week exercise training program. The compliance rate with the training program was almost 76%. Average exercise intensity was 3.87 METs in the first 10 training sessions, 4.65 METs in the second 10 training sessions, and 5.38 METs in the final 10 sessions.

Results of Exercise Tests and Lung Function Tests

Table 2 reveals that estimated $\text{VO}_{2\text{max}}$ ($t = -8.43$, $p < 0.0001$) and walking time during the exercise test ($t = -8.38$, $p < 0.0001$) significantly increased. Resting systolic blood pressure ($t = 2.78$, $p = 0.017$) significantly decreased after 10 weeks of exercise training. Resting heart rate, peak heart rate, and peak systolic blood pressure tended to decrease after training, but did not reach a statistically significant level.

Measurements of all lung function parameters did

Table 1. Demographic Characteristics of the Sample (N = 13)

Case number	Age (in year)	Gender	Time after OHT (month)	Education (Year)	Donor's gender	Donor's age (year)	Age difference between donors and recipients
1	54	male	4	8	male	31	23
2	52	male	2	16	male	33	19
3	63	female	43	0	male	14	49
4	64	male	25	9	male	37	27
5	55	male	72	6	male	21	24
6	65	male	54	21	male	17	48
7	59	female	19	6	male	18	41
8	52	female	60	12	male	22	30
9	49	male	7	6	male	33	16
10	39	male	4	12	male	14	25
11	65	male	3	6	male	19	46
12	52	male	5	9	male	24	28
13	61	female	12	0	male	27	34
mean (SD)	56.2 (7.6)		23.8 (24.8)	8.5 (5.8)		23.8 (7.7)	31.5 (11.1)

OHT = Orthotopic Heart Transplantation.