CONCLUSION

Exercise tolerance and cardiopulmonary function during exercise is, in contrast to expectation, equally compromised early after endo-ACAB surgery as opposed to after CABG surgery. These data signify the need for exercise-based rehabilitation intervention early after endo-ACAB surgery.

INTRODUCTION

Endo-ACAB surgery is associated with many clinical advantages as opposed to CABG surgery with median sternotomy. Cardiopulmonary function during peak exercise in patients early after endo-ACAB surgery has however not been studied yet. This may lead to suboptimal exercise prescription or treatment after endo-ACAB surgery.

AIM

To test the hypothesis that the cardiopulmonary exercise tolerance is better preserved early after endo-ACAB surgery vs. CABG surgery.

METHODS

20 endo-ACAB surgery patients, 20 CABG surgery patients, and 15 healthy subjects executed a maximal cardiopulmonary exercise test. Assessment and comparison of peak cycling power output (W), oxygen uptake (VO2), carbon dioxide output (VCO2), respiratory gas exchange ratio (RER), end-tidal O2 (PETO2) and CO2 (PETCO2) pressure, equivalents for VO2 (VE/VO2) and VCO2 (VE/VCO2), heart rate (HR), oxygen pulse (VO2/HR), expiratory volume (VE), tidal volume (Vt), respiratory rate.

RESULTS

1. Table: Subject characteristics are shown below. VO2, VCO2, VE, VI, VE/VO2, VE/VCO2, PETO2, PETCO2 at peak exercise (matched REI between groups) were significantly worse in patients vs. healthy controls (p<0.05, observed α=0.00). All these parameters were however not better in endo-ACAB surgery vs. CABG patients (p>0.10).

2. Table: Cardiopulmonary exercise capacity during peak exercise tolerance is better preserved early after endo-ACAB surgery vs. CABG surgery.

ENDO-ACAB SURGERY: IMPLICATIONS FOR REHABILITATION AND TREATMENT

CARDIOPULMONARY EXERCISE CAPACITY IN PATIENTS EARLY AFTER ENDOSCOPIC ATRAUMATIC CABG (ENDO-ACAB) SURGERY: IMPLICATIONS FOR REHABILITATION AND TREATMENT

AUTHORS: DOMINIQUE HANSEN, PHD, FESC1,2, LORE JACKMAERT, MSC1, BORIS ROBIC, MD1, MARC HENDRIKX, JD, PHD, FETCS3, ALLAADIN YILMAZ, MD3, INES FREDERIX, MD1,2, MICHAEL ROSSEEL, MD4, PAUL DENDALE, MD, PHD1,2

1. Biathlon Rehabilitation Research Center, Ziekenhuis Hasselt, Belgium. 2. Biomedical Research Center, Hasselt University, Belgium. 3. Department of Cardiopulmonary Rehabilitation, Ziekenhuis Hasselt, Belgium. 4. Department of Cardiology, Algemeen Ziekenhuis Hasselt, Hasselt, Belgium.

METHODS

These data signify the need for exercise-based rehabilitation intervention early after endo-ACAB surgery.