Tolerance to Exercise in High-Altitude in Organ Transplant Recipients

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Introduction

• New questions arise on physical possibilities in organ transplant recipients: are physically demanding goals equally feasible?
• Aims: evaluate the physical response, incidence of acute mountain sickness and tolerance to strenuous PA of various organ transplant recipients compared to non-transplanted controls.

Methods

• 12 Tx-recipients were selected to climb Mt. Kilimanjaro (2 heart-, 2 lung-, 2 kidney-, 4 liver-, 1 stem cell- and 1 small bowel-Tx).
• Controls were members off the medical team and accompanying family members (n=14).
• Cardiopulmonary parameters and symptoms of acute mountain sickness were recorded twice daily. Capillary blood analyses were performed 3 times during the climb and once after return.

Results

• 11 Tx-recipients and all controls started the summit attempt and reached >5000m.
• 8 (73%) Tx-participants and 11 (93%) controls reached the summit (5895m).
• Cardiopulmonary parameters (see figures 1a,b,c) and altitude sickness scores did not significantly differ between Tx-participants and controls.
• Capillary blood analysis indicated slightly higher levels of metabolic acidosis and subsequent compensation in Tx-participants versus controls.

Conclusion

Tolerance to strenuous physical activity and feasibility of a high-altitude expedition is comparable in well-selected organ transplant recipients after various types of transplantation and non-transplanted controls.

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