Angiogenic stimulation by blood flow restricted training – an innovative approach to post-interventional rehabilitation of patients with lower limbs ischemia.

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Background

Peripheral artery occlusive disease is one of the most common manifestations of atherosclerosis. Physical training, which plays a very substantial role in its treatment, has been recently modified by adding blood flow restriction (BFR) to it. This study aimed to assess acute endothelial and angiogenic response to physical BFR training with additional cooling.

Methods

Study population:
- 35 healthy volunteers
- aged 24.6 ± 2.4 years old
- 51.4% males

Angiogenesis biomarkers
- VEGF
- CD31
- CD34

Endothelial parameters
- Flow Meditated Dilatation
- Reactive Hyperaemia Index
- Stiffness Index
- Reflexion Index

Results

1) BFR training stimulates acute angiogenic response significantly and moderately influences some of the endothelial function.
2) Results are being now implemented into the 2nd part of the project involving PAD patients.