Name of research institute or organization:

Pneumology, High Altitude Research Group, University of Munich, Germany

Title of project:

Influence of gender on high altitude adaptation: Comparison of ACE2-levels in plasma between women and men

Project leader and team:

PD Dr. med. Rainald Fischer, Dr. Iris Pircher

Project description:

ACE2 levels might be involved in regulation of plasma fluid in patients with acute mountain sickness. However, it is unclear, whether ACE2 levels are different between men and women during high altitude exposure. We therefore plan a study to evaluate ACE2-leves after short and medium term exposure to an altitude of 3454 m (Jungfraujoch).

In preparation of this study, we tested the blood draw system, the transport of the blood and the feasibility of capillary blood gases during a small pilot study with four men and one woman.

During this pilot study, we were able to draw blood gases during several occasions with the expected values of PaO2 and PaCO2. The used system (EPOC, Alere Inc., Ontario, Canada) showed to be a reliable system with a broad range of environmental conditions to be used. We were even able to draw blood gases during an outdoor trip to the Mönchsjochhut, with outside temperatures below 0° C.

In contrast, the results obtained by the blood sampling were not reliable and showed apparently wrong data. Therefore, it is necessary to use a cooled centrifuge directly after blood sampling and to maintain an environment with temperatures below 20°C for the whole transport to the final lab.

Key words:

ACE2, blood gases, blood sampling

Scientific publications and public outreach 2012:

For 2013, an abstract was submitted to the German Pneumology Society regarding blood gas sampling in the field. The abstract was accepted as poster presentation on March, 22, 2013.

Address:

Pneumology, Med. Klinik V Innenstadt
Ziemssenstrasse 1
D-80336 München

Contacts:

Rainald Fischer
Tel.: +49 89 5160 2111
Fax: +49 89 5160 5491
e-mail: fischer@rainald.de
URL: http://www.rainald.de