Abstract No. **36**
Category: **Heart Failure and Cardiomyopathies**
Title: **Hypoxia and blood hypertension biomarkers measured in saliva during high altitude expedition**
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Abstract:

The main pathologies triggered by high altitude are HAPE and HACE, the most probable pathological mechanism to be produced is capillary permeability, induced by hypoxia.Recently,it has focused on the role of vascular endotelial grove factor (VEGF),thats appears mainly in lung and brain choroid plexus and it is a potent vascular permeability factor under hipoxia. Nevertheless, it remains to be determined if the circulating VGEF in the blood is a key factor that contribute to the HAPE, since the levels of VEGF don't increase steadily constantly in AMS. Considering that the VGEF, increases its expression in answer to inducibles factors by hipoxia. The increase should also be reflected in others biomarKers, like the factor of increase of placental endothelium(PIGF), that share the soluble receptor with the VGEF; the sFlt-1, both biomarkers could be find in saliva shows.

It was decided to perform the study to evaluate biomarkers inducible by hypoxia and associated to blood hypertension in saliva samples during a high altitude expedition to Cerro Rincon (5300 masl), Mendoza , Argentina , in healthy and trained participants.

Methods: The evaluated biomarkers were :CORTISOL, IL6 and CRP like inflammation markers (PIGF and sFtl-1) measured in morning and evening saliva. There also made studies of respiratory polygraphs nocturnal and diurnal measurements of blood pressure(BP),saturometry(st) and Lake Louise updated questionnaire. The results are expressed as rank. It was considered significant $p < 0.05$.

Results: 4 participants were evaluated, males, age 49-57 years;BMI (25.9-29.5) with previous experience of high altitude , during 8 days, they made the rise with progressive acclimatization 2880,3600 and 4300masl.One of them unchains a HEPA at 4300masl. All of them keep the circadian rhythm.The IL6 and CRP did not show changes .The PIGF didn't have any correlation with st nor with BP , the sFlt-1 had a r 0.20 with st, but it did not keep correlation with BP.The relationship sFlt-1 /PIGF=0.72; which could mean that the increase of PIGF affect the endothelial membrane producing teh edema.

The mountaineer that had HAPE is 53 years old , last climb 2.5 years ago , with no history of HAPE no cerebral edema of height (HECA). During the acclimatation mountaineer`s condition was good .The controls of st ,CF the poligrphas were similar to the others mountanist studies .At 3.30 AM of the day in which they preparing to make.Summit, he presented cough with catarrh of purulent appearance , in that moment, He presents a vague precordial annoyance and facial sensation . He suspended the rise, started antibiotics and rest well.The saturometer is placed measuring 70.65 and BP 130/91 mmhg.
When waking up at 9 AM He decided to start the descent to the shelter (refuge) of 2880 masl.On his return cardiological studies are done ekg, rx thorax , echocardiogram and color Doppler, discarding heart disease.