



Stroke and COVID 19 in high altitude Andean inhabitant

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Abstract:

A 36 years old man from La Paz Bolivia (altitude 3650 meters), without previous chronic diseases, was admitted in the emergency department with loss of consciousness and left hemiparesis sudden. Laboratory results showed Hemoglobin 18 g%. PCR COVID 19 (+). VES 44mm/H, PCR 125mg/dL, LDH 750 μ mol/min/g, Dimero D 900. CT head without contrast showed right medial cerebral artery infarction with cerebral edema. CT chest Crazy paving-like pattern, no effusions, no lymphadenopathy. The patient needed mechanical ventilation was transferred to intensive care, days latter he died.

The native inhabitant of high altitude, has genetic composition mixes Native Americans, Europeans and Africans. He lives in hypobaric hypoxia, and uses physiological mechanisms to be able to adapt to the altitude, the cerebral blood flow is decreased by around 20%, increase in the meantime of cerebral transit (15%). The exaggerated response to systemic oxidative-inflammatory-nitrosating stress: defined by an increase in the formation of free radicals and decreased bioavailability of vascular nitric oxide, is associated with impaired cerebrovascular function. Such as less pulmonary ventilation at rest, a decrease in the alveolar-arterial oxygen gradient, and increased alveolar-capillary diffusion. At the level of forced spirometry, the flow/volume curve at altitude shows greater vital capacity, an increase in the FEV1/FVC ratio, and a forced expiratory flow higher than those subjects who live at the level of the sea, due to lower air density. Also is known as increased erythrocyte mass. The coagulation alterations secondary to COVID 19 that further increase the risk of ischemic stroke.



Biography:

Ximena Alvarado Medical Doctor, Universidad Nuestra Señora de La Paz. Internal Medicine, Hospital de Clínicas. Member Society Bolivian Internal Medicine. Member Neurology Society. Member WSO. Delegate World Sleep Day. Member Association Atherosclerosis. Professor Internal Medicine residency, Hospital de Clínicas. Guest professor, Physiopathology UMSA. Internal Medical in Emergency department at the Hospital Obrero No. 1. Chairman meeting Stroke 2009 Bolivia. Autor: High altitude erythrocytosis as risk factor for stroke. Incidence of Chronic Headache at Altitude. CASE narcolepsy. Prevalence of restless legs syndrome secondary to hemodialysis unit Clinicas hospital. Alterations of sleep and cardiovascular risk. Obstructive sleep apnea syndrome and cardiovascular risk.

Recent Publications:

1. Alvarado B. J. Ximena, Journal of Psychology, 2017
2. Alvarado B. J. Ximena, Journal of Sleep Medicine, 2013