REVERSIBLE CEREBRAL VASOCONSTRICTION SYNDROME LIKELY RELATED TO ALTITUDE EXPOSURE AND PHYSICAL STRESS. A CASE-REPORT.

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Introduction: Reversible cerebral vasoconstriction syndrome (RCVS) is a neurological condition characterised by sudden and severe constriction of cerebral blood vessels, usually reversible within a few weeks. The main symptom is a sudden, "'thunderclap"' headache, which peaks in intensity within a few seconds and may be accompanied by nausea, vomiting and photophobia. Focal neurological deficits and seizures may be associated. The diagnosis is based on neuroradiological investigations that show the presence of segmental vasoconstriction of cerebral vessels. Treatment is symptomatic and aims at pain management and prevention of neurological complications, as well as elimination of triggering factors

Case-Report: Our patient is a 59-year-old woman, sportswoman, non-smoker, suffering from high blood pressure. After hiking at altitude on the volcano Etna with intense physical activity (cycling) she was transported to the emergency department for sudden and intense headache, food vomiting, loss of consciousness and convulsions. The neurological examination showed a soporific state with arousability to verbal stimulus, no focal deficits of strength and sensitivity in all four limbs, no meningeal signs. Blood tests with blood count, electrolytes and blood glucose were normal. Brain MRI with gadolinium revealed leptomeningeal impregnation and multiple hyperintense lesional foci in FLAIR with cortico-subcortical distribution. The CSF examination was normal. The EEG showed angular theta-wave trains and slow spikes on the temporal regions of both hemispheres with increase during hyperpnoea and tendency to spread. CT angiography showed moderate-to-severe "skip stenosis" in the branches of the middle and anterior cerebral arteries on both sides and along the P3-P4 branches of the posterior cerebral arteries, most evident in the medium and small calibre vessels. The brain PET scan was normal and negative inflammatory and autoimmune indices excluded central nervous system vasculitis. She underwent nimodipine therapy with normalisation of the MRI radiological pattern two months after the onset of symptoms.

Conclusion: The causes of RCVS are not completely known. Various triggering factors have been identified, including the intake of vasoactive drugs, narcotics, pregnancy and situations of severe physical or emotional stress. Respiratory alkalosis, found in studies at high altitude, causes deterioration of the central nervous system, presumably due to cerebral vasoconstriction. Therefore, when a sudden multifocal neurological pathology with headache, convulsions or otherwise occurs after exposure to altitude and physical stress, reversible cerebral vasoconstriction syndrome should be considered.

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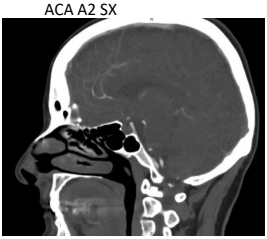

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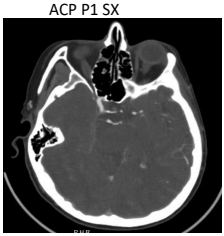

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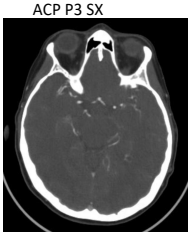

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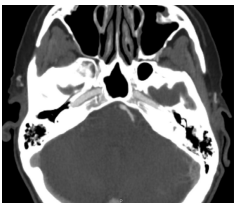

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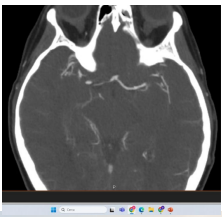

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