

SARS-Cov2 vaccines: shadows and lights

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Background: In last year, wide scientific attention has been focused on adverse events related to SARS-CoV2 vaccines. In a study performed on English population, an increased hospitalization was recorded because of haemostatic disorders and vascular events after a short time lapse after administration of a first dose of vaccine. However, the same study shows that risk of most of these events is substantially higher and longer in patients with SARS-CoV2 infection than in vaccinated related to vaccines, among which the production of anti-PD4 antibodies inducing platelets Aggregation and/or pro-inflammatory cascade activation.

Case Report: Man, 57 yo entered ER for syncopal episode with loss of sphincter control and body left side motor deficits during an amateur football match. Patient was so porous but easily awakened by verbal stimulation, with spontaneous motility at four limbs. He received third dose SARS-CoV2 vaccine six days before. Despite absence of anginal symptoms, ECG demonstrated a STEMI in DII-DIII-aVF, echocardiographic examination confirmed inferior and poster lateral walls akinesia. Furthermore, a head CT scan and a CT Angiography of the Aorta were performed. Head CT scan showed presence of a cerebral lesion in right temporo-parietal area with peripheral oedema and intraregional micro bleeding, while CT angiography showed multiple diffuse arterial thrombotic lesions, due to possible thromboembolic mechanism with a pulmonary lesion in right upper lobe with two enlarged thoracic lymphadenopathies, both findings of unclear

etiology. Considering complexity of clinical case associated and concomitant impossibility of performing a coronary angiography, patient was admitted to our Internal Medicine Department. Blood chemistry tests showed progressive increase of myocardial necrosis markers associated with thrombocytosis and Neutrophilic leucocytosis. Crossing blood chemistry and instrumental tests, following exams were required to enlight a possible acquired and/or inherited conditions of increased thrombotic risk: oncological and autoimmunity markers, genetic thrombophilia screening, specific genetic mutations to rule out a myeloproliferative disease, all tested negative. At resolution of haemorrhagic infarction confirmed by the head-CT, patient was discharged after anticoagulant and antiplatelet therapy was started, recommending periodic follow-up.

Discussion: Arterial thromboembolic events onset few days after vaccine administration seemed to suggest a close correlation between the two, that issue sustained by various literature cases reports. The event was reported to Hospital pharmacovigilance. SARS-Cov-2 vaccines are essential to overcome the pandemic, therefore it is important to continue to be vigilant for possible complications emerging. Others dates and longer follow-up are needed to verify pathophysiology of thromboembolic events and relationship between thromboembolic events and mRNA vaccines administration. Systematic safety monitoring of COVID-19 vaccines is essential to ensure that benefits are superior to risks.