

Vaccine-induced immune thrombotic thrombocytopenia: a possible pathogenic role of ChAdOx1 nCoV-19 vaccine-encoded soluble SARS-CoV-2 spike protein

Manuela De Michele,¹ Paola Piscopo,² Alessio Crestini,² Roberto Rivabene,² Giulia d'Amati,³ Martina Leopizzi,⁴ Lucia Stefanini,⁵ Fabio Pulcinelli,⁶ Antonio Chistolini,⁷ Marta Iacobucci,⁸ Oscar G. Schiavo,¹ Irene Berto,⁹ Ettore Nicolini,¹ Luca Petraglia,¹ Maria Teresa Di Mascio¹ and Danilo Toni⁹

¹Emergency Department, Stroke Unit, Sapienza University of Rome; ²Department of Neuroscience, Istituto Superiore di Sanità; ³Department of Radiology, Oncology and Pathological Science, Sapienza University of Rome; ⁴Department of Medico-Surgical Sciences and Biotechnologies, Sapienza University of Rome; ⁵Department of Translational and Precision Medicine, Sapienza University of Rome; ⁶Department of Experimental Medicine, Sapienza University of Rome; ⁷Hematology, Department of Translational and Precision Medicine, Sapienza University of Rome; ⁸Neuroradiology Unit, Department of Human Neurosciences, Sapienza University of Rome and ⁹Department of Human Neurosciences, Sapienza University of Rome, Rome, Italy

Correspondence: MANUELA DE MICHELE - m.demichele@policlinicoumberto1.it
<https://doi.org/10.3324/haematol.2021.280180>

Supplementary Information

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to:

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* Corresponding author. Email: M.DeMichele@policlinicoumberto1.it

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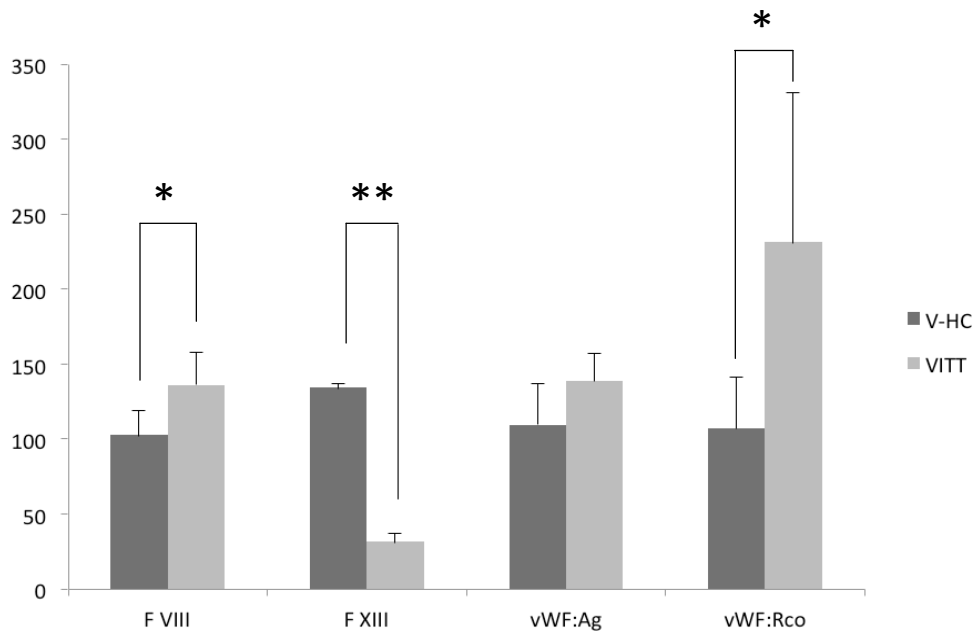


Figure S1. Coagulation is activated in VITT patients compared to vaccinated healthy controls.

Factor VIII and XIII were respectively significantly increased and decreased in VITT patients within 72 h from hospital admission compared to vaccinated healthy controls (V-HC). All VITT patients showed evidence of endothelial activation with significantly elevated VWF:RCo compared to V-HC. Statistical analyses were performed using unpaired Student's test. $*P < 0.05$; $**P < 0.01$.



Figure S2. Macroscopic aspect of the «white» (platelet-rich) thrombus retrieved during the first endovascular thrombectomy from middle cerebral artery in Patient 1. Thrombus length: 4 mm.

Supplementary Tables

Time from vaccination (days)	9	11	21	24	35	45
Time from admission/stroke (days)	0	2	12	15	26	36
PLT count (per mm³) (reference value 150,000-450,000)	44,000	23,000	344,000	94,000	47,000	72,000
D-dimer* µg/L (0-550)	NA	>4318	13617	1939	2825	993
INR (0.80-1.20)	1.16	1.17	1.21	1.54	1.94	1.10
FBG mg/dL (200-400)	405	250	NA	>555	312	280
SP (pg/ml)	0.868	0.7177	NA	0.853	0.798	NA
sACE2 (ng/ml)	2.843	0.565	NA	3.575	0.85	NA
Anti-PF4 (OD₄₅₀)	NA	Neg (0.5)	NA	Pos (1.68)	NA	Neg (0.35)
Platelet activation (ATP release)	NA	- (6%)	NA	++ (22%)	NA	++ (20%)
NETs (OD₄₅₀)	0.231	0,0	NA	0.91	0.104	NA

Table S1. Patient 1 laboratory findings over time, during her hospital stay. Note that soluble SARS-CoV-2 Spike protein (SP) was found up to 35 days after vaccination. Anti-PF4 antibodies were detected for the first time only at day 15 from admission. On day 45, despite negativity of anti-PF4 antibodies, serum patient continued to activate platelets from healthy donors and this activation was inhibited by both low and high dose of heparin (6% and 3% respectively). Platelet count reached normal values on day 12 after admission, 3 days after intravenous high dose immunoglobulin administration but decreased short after. Plasma exchange on 3 consecutively days

(3 l exchange with 5 % albumin replacement) was performed on day 15th from admission with a low response on PLT count. PLT: platelet; NETs: Neutrophil Extracellular Traps. NA: not available
*D-dimer was dosed by Emergency Department laboratory with a cut-off of 4318 µg/L except on day 12th when D-dimer was dosed by Hematology Laboratory with no cut-off.