

Summary of Project's First Stage

In the context of the COVID-19 pandemic, a major complication that has arisen following infection with SARS-CoV-2 is thrombosis (especially deep vein thrombosis - DVT), although the link between the two conditions has not yet been elucidated. Moreover, the vaccines developed to stop this pandemic have been correlated, to some extent, with a low risk of thrombosis as a side effect. Therefore, it is essential to understand the mechanisms underlying thrombosis in patients suffering from COVID-19/people vaccinated against this condition. Based on the expertise and results obtained within my PhD at Imperial College London (2020) - *VWF-dependent platelet 'priming' potentiates novel leukocyte interactions and mediates NETosis under flow*, the aim of this postdoctoral project is to investigate the phenotype of platelets and neutrophils isolated from COVID-19 patients and from subjects immunised against this disease, in order to better understand the link between COVID-19 and thrombosis.

To achieve this aim, in the first instance we prepared the general setting required for this project, by reviewing the literature, establishing a partnership with the Local Emergency Hospital „Sf. Ioan cel Nou” from Suceava (SJUSV), as well as signing the collaboration agreement in order to be able to analyse the role of platelets and leukocytes in COVID-19 associated thrombosis. Moreover, we generated the necessary documents for the patients to participate in the study and obtained the necessary Ethical Approval from the Research Ethics Committee within „Stefan cel Mare” University, Suceava. Furthermore, we established the work protocols for the proposed research activities and acquired the necessary consumables for the first stage of the project. Nonetheless, we initiated the research activities of isolating and stimulating the platelets and leukocytes, as well as analysing their phenotype. All these activities will continue in the next stage of the project. Finally, we designed the primers necessary for sequencing.

In line with the project implementation plan, we have completed all the planned activities and fulfilled the estimated results for the first stage of the project – the Scientific Report (this report), the conference presentation („The role of platelets and leukocytes in COVID-19-associated thrombosis”, within the National Conference „New valences of modern medicine. The importance of multidisciplinary in ensuring a successful medical act”, 4-6th November 2022), as well as the project webpage (available at the following link: <http://plincovt.usv.ro/>).