Table. Inflammatory and hemostatic biomarkers correlated with NLRP-3 inflammasome levels in patients with sepsis and suspected disseminated intravascular coagulation (DIC)

NLRP-3 inflammasome correlation	*P* (Mann-Whitney)	Spearman *r*
CD40L	.5716	−0.08028
PAI-1	.0041	0.3915
MP-TF	.1491	0.2528
Fibrinogen	.7685	0.04314
Fibronectin	.8291	−0.03067
Cortisol	.0758	0.2484
D-Dimer	.3272	0.1495

MP-TF, Microparticle-associated tissue factor; *PAI-1*, plasminogen activator inhibitor 1.

associated with increased levels of PAI-1 ($P < .0004$). No other inflammatory or hemostatic markers were significantly correlated with NLRP-3 inflammasomes. This is depicted in the Table.

Conclusions: The study shows a significant relationship between inflammasomes and PAI-1 levels in patients with sepsis-associated coagulopathy. The positive correlation between NLRP-3 inflammasomes and PAI-1 shows that the activation of inflammasomes may have a role in the upregulation of PAI-1 and the observed hemostatic dysregulation. The strong association between NLRP-3 inflammasome and PAI-1 in baseline samples of patients with sepsis and DIC also suggests that NLRP-3 inflammasome may contribute to the fibrinolytic dysregulation in sepsis and DIC.

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Venous Reflux Changes After Physical Exercise

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Objective: It is known that the presence of venous reflux affects the arterial inflow to the lower limb. However, the effect of changes in arterial inflow on the parameters of venous reflux has not been studied. The purpose of this investigation was to assess the influence of changes in arterial inflow during exercise on quantitative parameters of reflux.

Methods: There were 61 lower limbs of patients with primary incompetence of the great saphenous vein (GSV) included in the study. The diameter, cross-sectional area, average velocity, and reflux time (RT) were measured by duplex ultrasound. Reflux volume (RV) flow (Q) and absolute RV (ARV) were calculated. The measurements were performed standing at rest before physical exercise and 60 seconds after physical exercise (30 lifts to tiptoes at a frequency of 1 time per second). A decrease in the absolute volume of reflux (DRV) after exercise was calculated (DRV = ARV [after] − ARV [before] / ARV [before] * 100%). Automatic distal compression-decompression (120 mm Hg) was used as a provoking maneuver. Median and interquartile range were used for describing quantity parameters.

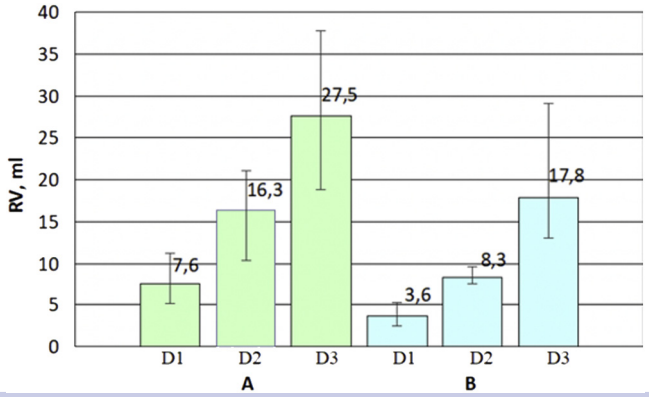

Fig 1. Reflux volume (*RV*) depending on diameter of the great saphenous vein (GSV). **A,** Before physical exercise. **B,** After physical exercise. All groups have statistically significant difference.

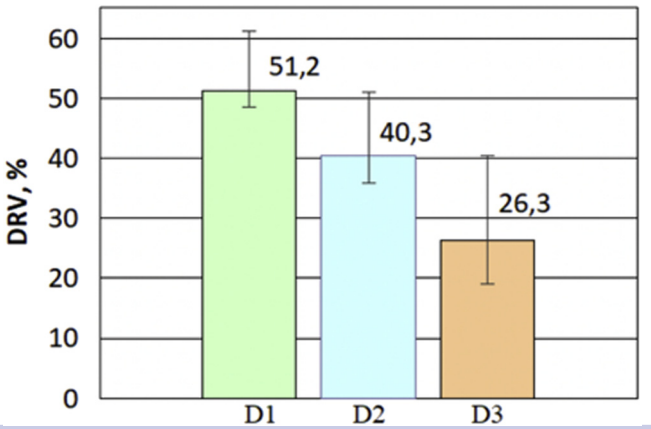

Fig 2. Decrease in reflux volume (*DRV*) changes depending on diameter of the great saphenous vein (GSV). D1 and D3, $P = .0002$. D1 and D2, $P = .099$. D2 and D3, $P = .0581$.

Results: Before exercise, reflux parameters were as follows: RT = 4.85 (3.71-6.00) seconds; Q = 3.89 (2.03-5.81) mL/s; RV = 17.05 (10.32-25.34) mL. After physical exercise, they changed to RT = 2.86 (2.14-3.33) seconds, Q = 3.61 (2.06-6.37) mL/s, and RV = 10.07 (6.08-16.48) mL. The changes in RT and RV were statistically significant ($P < .0001$ and $P = .0007$, respectively; Fig 1).

DRV was statistically significantly different only between groups D1 and D3 ($P = .0002$; Fig 2).

DRV was reversely related to the GSV diameter ($r = −0.56$; $P < .05$) and to the disease severity measured by Venous Clinical Severity Score ($r = −0.41$; $P < .0001$).

Conclusions: The increase in arterial inflow during physical activity leads to the decrease in the volume of reflux, mainly due to decrease in RT. The decrease in the volume of reflux after exercise is inversely proportional to the diameter of the GSV.

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In Vivo and Ex Vivo Thrombin Generation in Noncomorbid Patients with Suspected Deep Venous Thrombosis

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Objective: Thrombin generation in vivo can be assessed by measuring prothrombin fragment 1+2 (F1+2) and D-dimer. The F1+2 fragment is generated during prothrombin conversion to thrombin and thus reflects thrombin generation. Degradation of cross-linked fibrin produces D-dimer, which reflects both ongoing coagulation and blood clot dissolution. Ex vivo, thrombin generation can be assessed by the thrombin generation assay, in which the endogenous thrombin potential (ETP) reflects the total enzymatic activity of thrombin. The aim was to compare thrombin generation in vivo and ex vivo in patients with suspected deep venous thrombosis (DVT).

Methods: Patients with clinically suspected DVT and without known comorbidities or taking anticoagulants were included. Blood samples were collected before examination with compression ultrasound of the lower extremities. In vivo parameters were analyzed with commercially