Abstract: P1015

Title: THE EFFECT OF THERAPY ON THE COAGULATION ACTIVITY OF MICROPARTICLES IN PATIENTS WITH PRIMARY MYELOFIBROSIS

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Session Title: Myeloproliferative neoplasms - Biology & Translational Research

Background:

Primary myelofibrosis (PMF) belongs to the group of Ph-negative myeloproliferative neoplasms and is characterized by thrombotic complications. It is known that a significant contribution to the development of prothrombogenic potential in patients with PMF is made by the appearance of microparticles (MP) in the bloodstream, which appear as a result of intravascular activation of blood cells. MP expresses tissue factor (TF) and procoagulant phospholipids on their surface that can enhance prothrombogenic potential of blood plasma. Thus, unsafe and effective prevention of thromboembolic complications remains a major question in the management of these patients

Aims:

of this study to estimate the coagulation activity of microparticles in patients with primary myelofibrosis receiving the antiplatelet and targeted therapy.

Methods:

The study included 24 PMF patients receiving the antiplatelet (n=10) and targeted therapy with ruxolitinib (n=14) and 30 healthy controls. Thrombin generation was measured in platelet-free plasma with Calibrated Automated Thrombinography (CAT). Following reagents were used: «FluCa-kit», «PRP-reagent», containing rTF (1pM), «MP-reagent», containing negatively charged phospholipids (4 μM), with CTI (40 μ/ml). Endogenous thrombin potential (ETP, nM*min) was evaluated. STATISTICA 12.0 was used. The results are given as median (Me) and Q1-Q3. Mann-Whitney test was used to compare the studied groups. P<0.05 was considered statistically significant.

Results:

The data are shown in the table.

Parameters of thrombinogram in PMF patients and healthy controls (Me; Q1-Q3)

Parameters	Antiplatelet therapy (n=10)	Targeted therapy (n=14)	Controls (n=30)
ETP, nM*min (PRP-reagent)	605.42*,** 487.24-887.79	362.39** 270.43-498.59	471.84 384.25-564.09
ETP, nM*min (MP-reagent)	729.31** 450.36-1168.22	867.69** 372.36-1254.87	556.59 462.25-708.00

*-p<0.05 differences between antiplatelet and targeted therapy

**-p<0.4 differences between patients and controls

ETP (PRP-reagent) in patients receiving the antiplatelet therapy was significantly higher than it with targeted therapy and tended to increase compared to the control group (p<0.4). ETP (MP-reagent) in all patients tended to

increase compared to the control group ($p<0.4$) but it wasn't any differences between both groups.

Conclusion:

PRP-reagent and MP-Reagent allow to estimate thrombin generation which depends on procoagulant phospholipids and TF, respectively. Thus, targeted therapy with ruxolitinib in patients with primary myelofibrosis leads to a significant decrease of thrombin generation caused by phospholipids of microparticles.

Keywords: Microvesicles, Therapy, Myelofibrosis