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634.MYELOPROLIFERATIVE SYNDROMES: CLINICAL AND EPIDEMIOLOGICAL

Increase in Total Protein Level of Bruton's Tyrosine Kinase in Myeloproliferative Neoplasms

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Myeloproliferative neoplasms (MPNs), including polycythemia vera (PV), essential thrombocythemia (ET), and primary myelofibrosis (PMF), are characterized by atherosclerosis and cardiovascular risk. The mechanisms that connect MPNs with atherothrombosis remain elusive. It is known that atherosclerotic plaque causes Glycoprotein VI (GPVI)-dependent platelet activation and hence activation of bruton kinase (Btk) and that Btk inhibitors in vivo and ex vivo suppress GPVI-mediated paltelet activation. Aim of this study is to measure the levels of GPVI and Btk. In addition, we measured the CXCL12 as marker of atherothrombosis. We studied 25 JAK2V617F positive MPNs patients (WHO criteria) (mean age 58 years) including PV 12, ET 8, and PMF 5. We measured platelet count by automated analyzer, GPVI by flow cytometry, total Btk (T-Btk) protein by immunoblot and total CXCL12 (T-CXCL12) protein by ELISA. All patients had thrombocytosis (630±40x109/L) and allele burden ≥ 50%. We found high GPVI expression (mean fluorescence intensity (MFI) 20±5.8) and high T-Btk (mean value 1.0) as well as high T-CXCL12 (15±2 μg/ml). A positive correlation there was between GPVI and Btk. We further investigated Btk mRNA tran script levels using RT-PCR assay in triplicate from each samples and found mean values ≥ 1.0. On the basis of these results the use of GPVI- and Btk- inhibiting agents as atherothrombosis-focused antiplatelet drugs is conceivable. Therefore, clinical trials are eagerly awaited.

Disclosures No relevant conflicts of interest to declare.

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