AIM: We assess two general approvals of the hypertension research: 1. Increase in whole blood viscosity; 2. Abnormal change in hemostatic factors.

PATIENTS: The draft (n=229) covers healthy subjects (HS), symptomatic hypertension (SH), essential hypertension (EH), healthy pregnant women (HP) and preeclampsia (PP).

METHODS: Measurements of albumin (AB), erythrocyte sedimentation rate (ESR), fibrinogen (Fb), prothrombin time (PT) and activated partial thromboplastin time (aPTT) were acquired by automatic lab analyzers. The readings of Zeta sedimentation ratio (ZSR), plasma viscosity (PV) and leukocyte adhesiveness/aggregation (LAA) took place by own home made devices. Von Willebrand factor (vWF) was an ELISA. Visualization with box plot images (BPI) and nonparametric (Mann-Whitney) test were processed by SPSS15.

RESULTS: All tested hypertensive patients showed significant increase in ESR, ZSR and LAA but PV increases only in EH. While Fb was significantly increased in all tested groups the AB/Fb ratio was significantly decreased. The haemostasis screening tests (PT and aPTT) show tendency of decrement (partly significant) within the reference range (RR). Thereto only the value of PP was true pathological (below the RR). vWF shows explicit significant increment in all hypertensive patients.

CONCLUSIONS: An aggravation of rheological parameters and changed hemostatic potential up to the border range refer to low grade inflammation and thromboembolic risk in all forms of hypertension.