

Letter to the Editor

Are hemorheological parameters independent of aging?

We read the paper by Seki et al. [1] with great interest. It focuses its attention that aging, obesity, erythrocytosis, leukocytosis and dyslipidemia can be related to hemorheological disorders based on the blood chemistry results of 176 healthy volunteers. Although we have the data of large population trials, the role of hemorheological parameters and their possible relation to age is still under-represented in circulation research and in the clinical practice. In our department, several investigations were performed during the last two decades in patients with ischemic heart diseases, as well as with hypertension, diabetes mellitus, and during and after percutaneous coronary interventions.

In one of our studies [2], we investigated whether hemorheological parameters (hematocrit, plasma fibrinogen, red blood cell aggregation, whole blood and plasma viscosities) are associated with increasing age in 6236 cardio- and cerebrovascular patients. To exclude the effect of risk profile previous diseases and medication 623 patients with matching parameters were selected from the study population. Our results suggested, that in a homogeneous population, hemorheological parameters were independent of aging.

In another study [3], the relation of the severity of coronary artery disease and hemorheological factors was studied in 162 patients who underwent coronary angiography. Besides the usual laboratory parameters, hematocrit, plasma fibrinogen, plasma, and whole blood viscosities were measured; results were also analysed as to whether there was any relation to the severity of coronary artery disease. Hemorheological variables were most deteriorated in those with the most severe coronary vessel disease; patients with non-significant atherosclerotic lesions and single vessel disease showed intermediate alterations of these parameters.

Our results suggest that altered hemorheological parameters are much more associated with different diseases and the severity of atherosclerosis, than with aging alone.

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References

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