

The impact of multiple blood donations on the risk of cardiovascular diseases: Insight of lipid profile.

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Abstract: OBJECTIVES: The reduction in blood viscosity and iron store were proposed to be connected to the reduction in the risk of cardiovascular disease (CVD) among multiple blood donors. Herein, we evaluated the modulation of serum lipids levels in accordance with donation events. Furthermore, atherogenic impacts on the risk of CVD were investigated. MATERIALS AND METHODS: A total of 100 voluntarily male donors were included in the study. Fifty donors were multiple time donors (MTD) and 50 were single time donors (STD). Levels of serum lipids were determined and atherogenic indices including TG/HDL and CHO/HDL ratios were calculated. QRISK2 parameters were determined to evaluate the 10-years risk of developing CVD. RESULTS: Among MTD, there were significantly higher serum levels of triglycerides (TG) and very low-density lipoproteins (VLDL) combined with significantly lower HDL level. These modulations were significantly correlated to the extent of donation. Both CHO/HDL and TG/HDL ratios were also significantly higher among MTD. However, only TG/HDL ratio was strongly correlated to the donation extent even when controlled for age, BMI and smoking status. Despite the significant difference in QRISK2 parameters between study groups, none of these parameters was correlated to the extent of donation when controlling for age, BMI and smoking status. CONCLUSION: We demonstrate that multiple blood donation is associated with an unfavorable modulation of serum levels of lipids that is influenced by donation extent. This modulation is not associated with an increased risk of CVD but may weakly contribute in a higher risk for coronary heart disease (CHD).