
Von Willebrand Factor Profiles of the Different ABO Blood Groups Among Malay Population

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The National Blood Center, Kuala Lumpur interprets laboratory results for the von Willebrand factor (vWF) profile based on guidelines provided by the U.S. National Heart, Lung, and Blood Institute, which were established based on the Caucasian population [1-2]. The vWF profiles among the Malay population has not yet been established.

The goals of this study were to determine the vWF profiles of the different ABO blood types among Malays and to evaluate their association with demographic characteristics and smoking habits.

One hundred and forty Malay donors participated in this study. Factor VIII (FVIII), vWF antigen, and ristocetin cofactor (RiCof) levels and collagen binding activity (CBA) were measured by coagulometric clot detection, latex agglutination, and enzyme-linked immunosorbent assay.

The majority of donors (59.3%) were 30–49 years old, male (81.43%), non-smokers (74.3%), and overweight (71.4%). The Malay vWF antigen were slightly higher than those of Caucasians, Indians, Thais, and Chinese, but the average ratios of vWF activity (i.e., RiCof level and CBA) to vWF antigen were slightly lower than those of the other populations. The prevalence of low (< 50 IU/dl) vWF antigen and CBA was not common among the Malays. The highest level of vWF antigen was found among those with the B blood group, followed by types A and O. The CBA levels were significantly interrelated with age group, whereas other demographic characteristics had no significant association.

Malays with type O blood had lower values of the components of the vWF profile compared to subjects with non-O blood. The higher levels of these elements and lower vWF activity to vWF antigen ratio in Malays compared to other populations suggest that ethnicity impacts the

plasma vWF levels and that ethnic variation plays a role in the interaction of the vWF protein with collagen and platelets [3].

Keywords: von Willebrand factor (vWF) profiles, ABO blood group, Malays

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