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INTRODUCTION

von Willebrand factor multimers (VWF:MM) methodologies are technically difficult, laborious, time consuming, non-standardized and results vary between labs.

A first step towards standardization was made by introducing a semi-automated VWF:MM assay by Sebia (Lisses, France).

In addition to qualitative interpretation of multimer patterns, the Sebia PHORESIS software allows quantification of VWF:MM band patterns, thus the percentage of each molecular weight multimer fraction can be calculated.

Due to lack of reference values for VWF:MM fractions, results interpretation can be challenging in some cases.

AIM

The aim of this study was to determine reference intervals for low molecular weight (LMW), intermediate molecular weight (IMW) and high molecular weight (HMW) multimers.

Establishing reference intervals for von Willebrand factor multimers

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To collect a larger sample size an international cooperation was initiated.

We analyzed data from 134 participants (51 m 83 non-pregnant females) aged 17-69 years. Acceptance criteria: no history of hemorrhagic episodes; no usage of any medication for at lea days before blood collection; normal coagulati screening tests; normal VWF screening assay written consent provided.

Reference intervals (with 90% confidence intervals) were calculated using a robust meth according to the CLSI C28-A3 standard. The study was performed according to the Dec

of Helsinki and was approved by national ethic committees.

CONCLUSIONS

Quantification of VWF:MM fractions, in addition to qualitative assessment of VWF:MM patterns, has potential value to aid in differential diagnosis of VWD sub-types. The reference values calculated in this study can be used in future research to establish clinical decision limits.

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RESULTS

After outlier exclusion (n=3), done by Grubs double sided and Tukey methods, a total of 131 samples were analyzed statistically. Results were normally distributed. No significant differences were found between males and females. The proposed reference intervals for VWF:MM are presented in table 1.

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Table 1. Proposed reference intervals for VWF:MM

	Low Molecular	Intermediate	High Molecular
	Weight	Molecular Weight	Weight
Lower limit, % [90% CI]	10.42	22.55	45.58
	[9.94 – 10.95]	[21.81 - 23.32]	[44.54 - 46.71]
Upper limit, % [90% CI]	22.52	37.57	66.59
	[21.52 - 23.51]	[36.44 - 38.72]	[65.10 - 68.02]

CONTACT INFORMATION

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