

【Overview presentation】

VWF:RCo/VWF:Ag for diagnosis of acquired von Willebrand syndrome caused by aortic stenosis

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<p>Overview presentation</p>	<p>Background</p> <p>Severe aortic stenosis (AS) causes acquired von Willebrand syndrome (AVWS) by the excessive shear-stress-dependent cleavage of high molecular weight multimers of von Willebrand factor (VWF). While the current standard diagnostic method is so-called VWF multimer analysis that is western blotting under non-reducing conditions, it remains unclear whether a ratio of VWF ristocetin co-factor activity (VWF:RCo) to VWF antigen levels (VWF:Ag) of <0.7, which can be measured with an automated coagulation analyzer in clinical laboratories and is used for the diagnosis of hereditary von Willebrand disease, is useful for the diagnosis of AS-induced AVWS.</p> <p>Methods</p> <p>VWF:RCo and VWF:Ag were evaluated with the VWF large multimer index as a reference, which represents the percentage of a patient's VWF high molecular weight multimer ratio to that of standard plasma in the VWF multimer analysis.</p> <p>Results</p> <p>We analyzed 382 patients with AS having trans-aortic valve maximal pressure</p>

	<p>gradients over 30 mmHg, 27 patients with peripheral artery disease (PAD), and 46 control patients free of cardiovascular disease with osteoarthritis, diabetes and so on. We assumed a large multimer index of <80% as loss of VWF large multimers since 59.0% of severe AS patients had the indices of <80%, while no control or PAD patients, except for two patients, exhibited the indices of <80%. The VWF:RCo/VWF:Ag ratios, measured by an automated blood coagulation analyzer, were correlated with the indices ($r_s=0.470$, $p<0.001$). When the ratio <0.7 was used as a cut-off point, the sensitivity and specificity to VWF large multimer indices of <80% were 0.437 and 0.826, respectively.</p> <p>Conclusion</p> <p>VWF:RCo/VWF:Ag ratios <0.7 may indicate loss of VWF large multimers with high specificity, but low sensitivity. VWF:RCo/VWF:Ag ratios in AS patients with the ratio <0.7 may be useful for monitoring loss of VWF large multimers during their clinical courses.</p> <p>Keywords</p> <p>aortic stenosis acquired ,von Willebrand syndrome, VWF large multimer index, VWF ristocetin co-factor activity, VWF:RCo/VWF:Ag</p>
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