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Comments to: An Evaluation of Hemostatic Abnormalities in Patients With Hemophilia by APTT Waveform, Peak Heights of APTT Waveform Are Useful for Diagnosing Hemophilia or Inhibitor

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The optical end point coagulation analyzers can visualize the clot reaction curve as the activated partial thromboplastin time (APTT) and an abnormal biphasic curve of APTT waveform have been reported to be associated with the early detection of disseminated intravascular coagulation.[1,2] The ACL TOP analyzer (the Instrumentation Laboratory [IL], Bedford, Massachusetts) automatically calculates the absorbance data furthermore to display the first and second derivative curves (DCs) of APTT. The first and second DCs reflect the velocity and acceleration, respectively, throughout the clotting reaction.[3] Evaluations for the first and second DCs in APTT waveform are reported to be useful for detecting any coagulation factor deficiency and coagulation inhibitor.[4-6] Katayama et al recently reported that APTT waveform is useful for analysis in hemostatic abnormalities in hemophilia.[7] The correlation with coagulation factor VIII (FVIII) activity was the highest in the height of second DC. The peak times of second and first DC were significantly longer, and the heights of first and second DC were significantly low in hemophilia with inhibitor. However, ACL-TOP analyzer automatically modified the size of APTT waveform to see large waveform, and most of technicians and physicians cannot evaluate real size of APTT waveform, indicating that the differential diagnosis among hemophilia with and without inhibitor and lupus anticoagulant is difficult based on APTT waveform with automodification at a glance (Figure 1A, 2A, and 3A). The difference among above diseases is clear in APTT waveform without automodification (Figure 1B, 2B, and 3B). The height of both first and second DCs were low in hemophilia and significantly low in hemophilia with inhibitor, and only the peak of second DC was low in lupus anticoagulant. Although IL is now depending on previous biphasic waveform, IL should show true height of first and second DC correctly. The height of first and second DCs *without automatic modification* was more useful for the diagnosis of hemophilia with and without inhibitor than *the* biphasic waveform.

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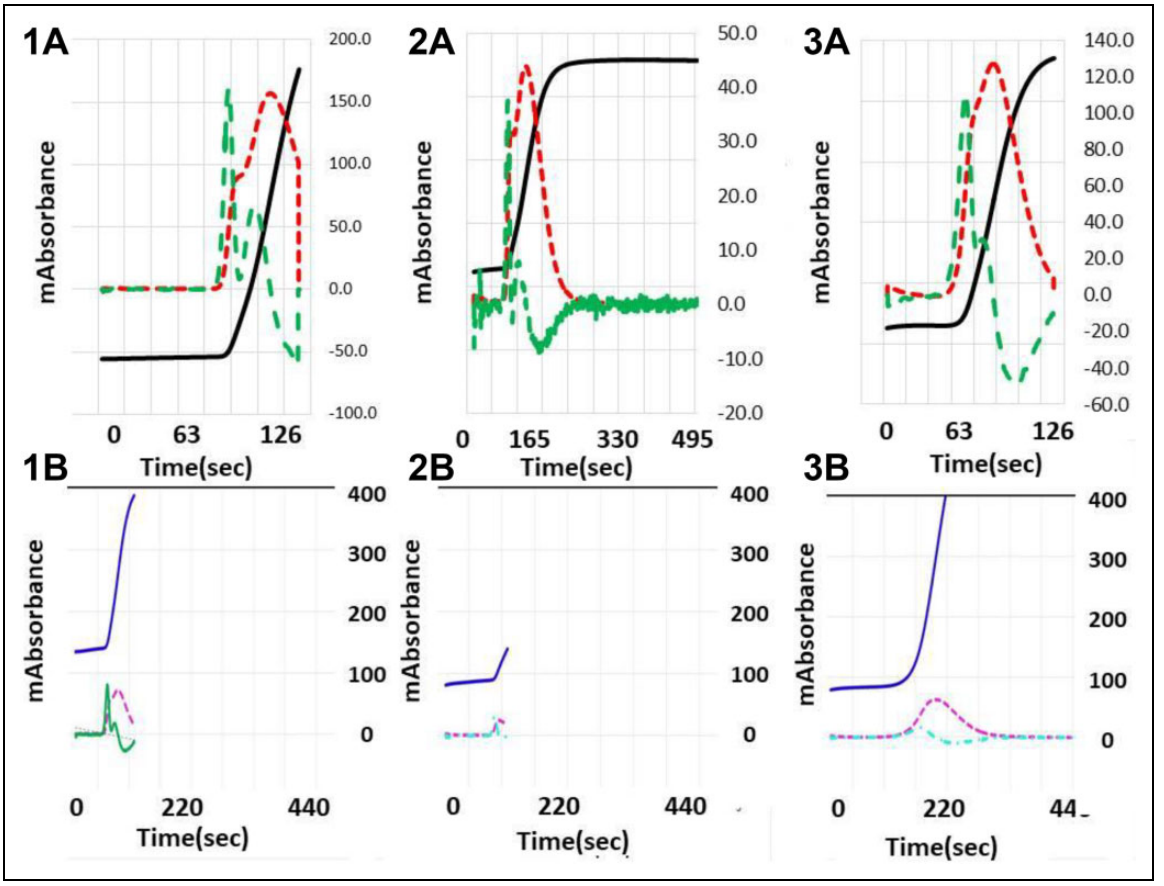

Figure 1. APTT waveform for hemophilia (1), hemophilia with inhibitor (2), and lupus anticoagulant (3). A, With automodification of APTT waveform; (B) without automodification of APTT waveform. APTT indicates activated partial thromboplastin time.

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