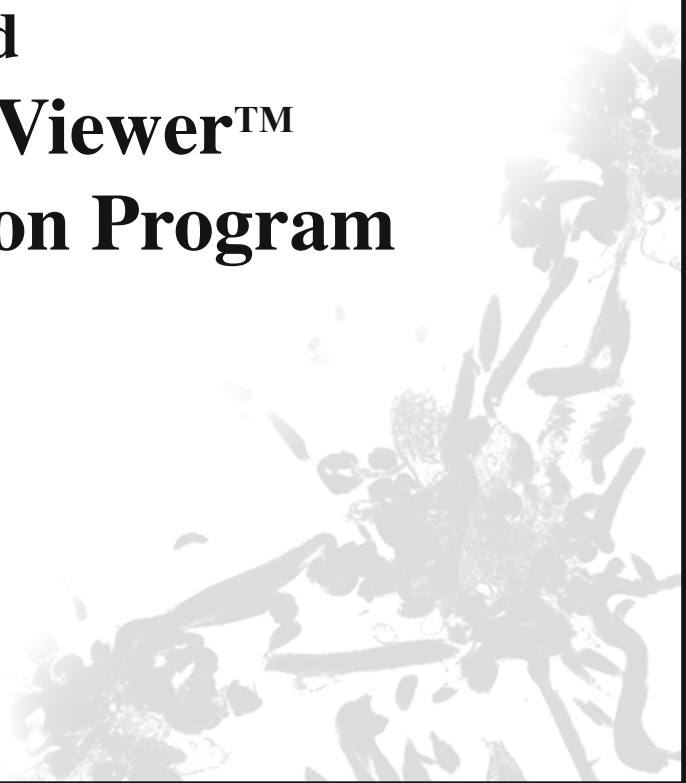


Sienco Case Study: Living Donor Liver Transplant

**Featuring the
Sonoclot® Coagulation & Platelet
Function Analyzer
and
Signature Viewer™
Data Collection Program**

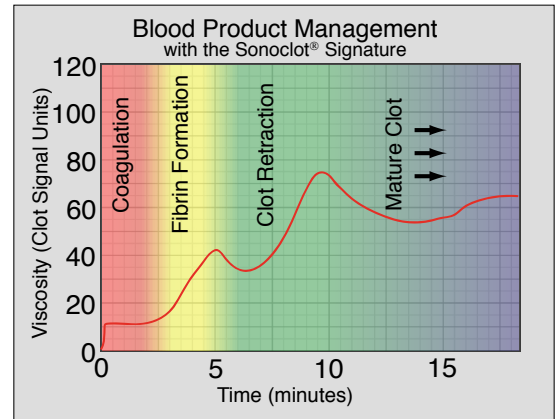


Living Donor Liver Transplant

The following Sonoclot Signatures were collected during an adult-to-adult liver transplantation procedure in which the patient received a liver segment from her son.

Background on the Sonoclot Signature:

The Sonoclot Signature monitors the hemostasis process beginning with the coagulation cascade reactions (Activated Clotting Time), through thrombin formation, (characterized by the Clot RATE) and clot retraction (characterized by the Platelet Function result). The Sonoclot Analyzer is a very convenient and useful tool for determining if and where coagulation problems arise clinically and how to treat them. In the following examples, the Signature highlighted in red is the Sonoclot Signature being discussed. The Signatures in grey are the other Signatures collected during the procedure and are included for reference.

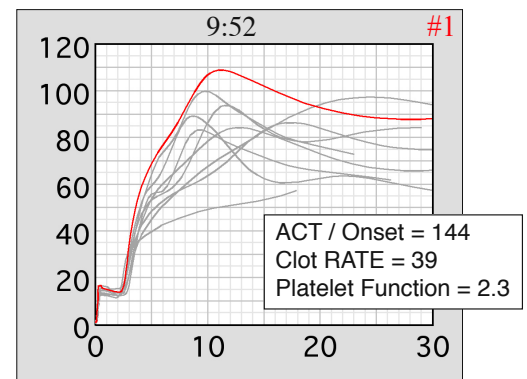


All of the signatures were collected using the gbACT+ test (Sienco Part Number 800-0412). This test is specifically formulated for detecting platelet function and is suitable for use in non-anticoagulated to low dose heparin situations. The Signature Viewer™ data collection program automatically time stamps each Sonoclot Signature for the convenience of the user. Signature Viewer™ also contains data fields that are user customizable for the convenience and ease of data collection and identification.

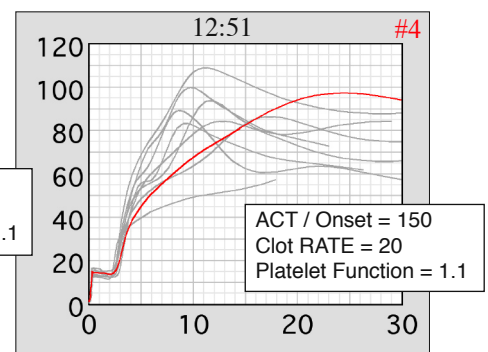
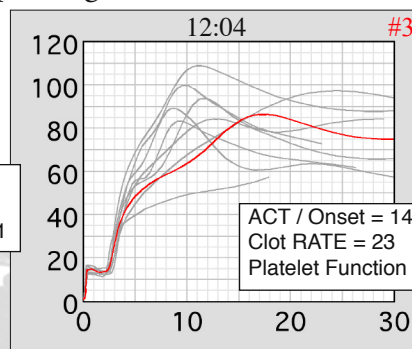
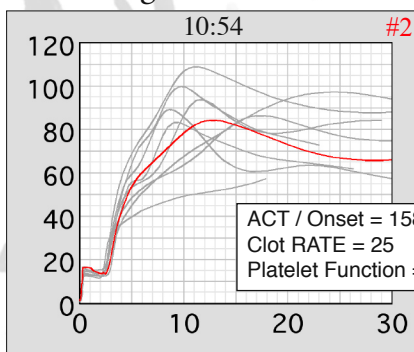
Liver Transplant Case Study:

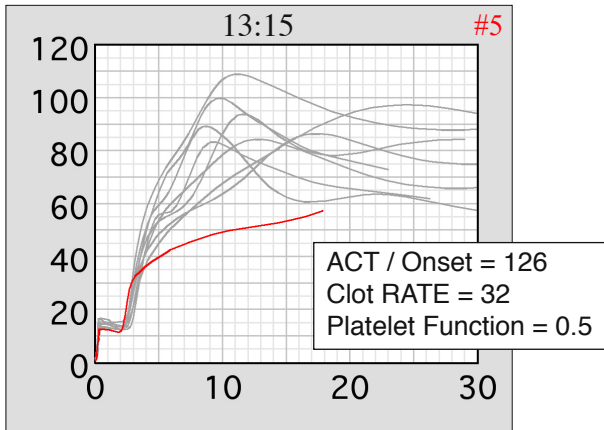
The highlighted Signature, Signature #1, was taken at the beginning of the procedure at 9:52 am. It shows normal results for Onset time, Clot RATE and Platelet Function. To the left is a table of the normal ranges for Sienco's gbACT+ test.

gbACT+ Test (#800-0411, 800-0412)	
Native Whole Blood - Normal Population, No Heparin	
Result	Normal Range
ACT / Onset	119-175 seconds
Clot RATE	7 - 25 Clot Signal Units / minute
Platelet Function	generally > 1.2



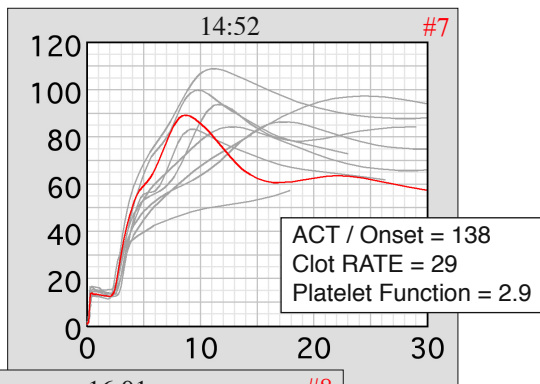
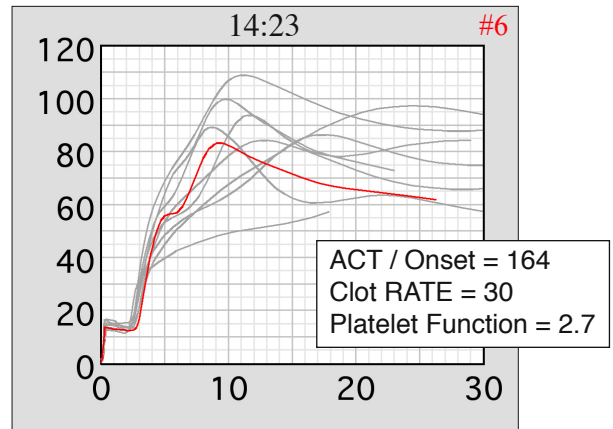
The next three Signatures collected during the procedure all show normal results for ACT/Onset time and Clot RATE. They do, however, show degradation of Platelet Function from the baseline. This is demonstrated numerically by the decrease in the Platelet Function result from the baseline and also in the slower and more relaxed shape of the Signature during the clot retraction phase. The peaks of the Signatures in the clot retraction phase are reduced and the time that it takes to reach a peak is prolonged in each of the successive Signatures.



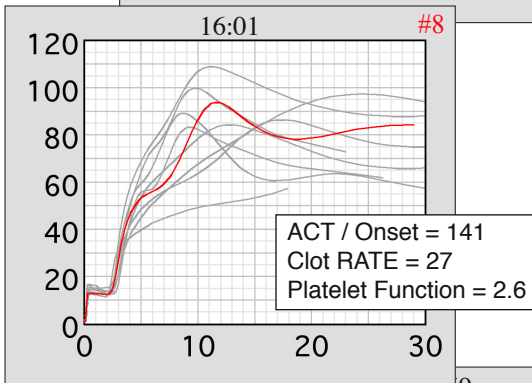


Prior to collecting the blood sample tested in Signature #5 at 13:15, fresh frozen plasma was administered to the patient. The fresh frozen plasma likely contributed in the reduction of the ACT time from 150 seconds to 126 seconds. The need for clotting factors at this time was not great, as both 150 and 126 are within normal ranges for the gbACT+ test. Another characteristic of this Signature is the substantial further reduction of Platelet Function. Almost no clot retraction is apparent, indicating substantial platelet dysfunction. At this time clinical oozing was observed in the patient.

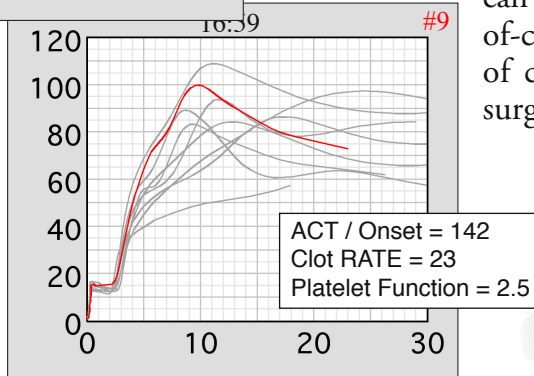
Platelets were administered and the platelet function greatly improved, as can be seen in the next Signature collected (on right). The platelet function number increased from 0.5 to 2.7 and patient oozing subsided indicating that the administration of platelets improved clot retraction.



The last three Signatures collected during the procedure indicate that the patient maintained acceptable hemostasis performance throughout the remainder of surgery. ACT, Clot RATE, and Platelet Function all fell within acceptable ranges and no excessive clinical bleeding or oozing was observed.



In conclusion, the only clinically significant coagulopathy during the procedure was the platelet dysfunction observed at 13:15. The Sonoclot Analyzer data specifically identified the problem and confirmed the effectiveness of the treatment. The patient left surgery in stable condition and recovered well. This case is a typical example of how the Sonoclot Analyzer can be a convenient, useful, and cost effective point-of-care tool for hemostasis monitoring in a variety of clinical areas, including liver transplantation surgery.



For more information on the Sonoclot[®] Coagulation & Platelet Function Analyzer and its clinical applications, please contact Sienco at 800-432-1624 or e-mail us at sienco@sienco.com.

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