**Supplementary Materials**

***TEG analysis***

In the TEG trace, R (4-8 m) is the distance from the start of the trace to the point where the lines have diverged 1mm, which indicates the intrinsic pathway activity.s1-3K (0-5 m) is the distance between the end of R and the point at which the distance between the two branches reaches 20 mm. The K (0-5 m) is a measurement of the rapidity of clot formation kinetics, while the combined R and K values reflect the coagulation time from its initiation to effective clot strength.s4MA (40-50 mm) is the maximal distance between the two diverging branches, reflecting final clot strength. The angle (α, 47-74°) is measured between the midline and the tangent to the curve drawn from the 1 mm-wide point. Fibrinolysis was measured as lysis at 30 and 60 m (0-3%).s5 TEG uses kaolin and whole blood in an oscillating cuvette, into which a piston is lowered. The movement of the cuvette is translated to an oscillograph tracing as the blood thickens. In the TEG, the cuvette oscillates around the metal pin, whereas the pin moves around the cuvette in the ROTEM, conferring more stability against vibrations. Fig. 2a shows the TEG trace with the corresponding SCTs that provide information on the clot formation initiation, clot kinetics, and fibrinolysis.

***Sonoclot analysis***

Citrated whole blood was used for Sonoclot analysis. A 340 aliquotof citrated whole blood was added to glass bead-activated ACT+ cuvette prewarmed to 37°C, along with 20 μL of CaCl2. Sonoclot signature was obtained and recorded for a period of 30 m on a Sonoclot analyzer (Sonoclot Coagulation and Platelet Function Analyzer; Sienco Inc., Arvada, CO, USA).

The quantitative measurements included ACT, which is the interval in seconds between test onset till the beginning of fibrin formation. It is the time from probe insertion into the cuvette until onset of fibrin formation and the end of the liquid phase, which is also the endpoint for SCTs such as the PT and avPTT times. The rate of fibrin formation from fibrinogen is known as CR, measured as the gradient of the primary slope measured as a percentage of peak amplitude per unit time. The secondary slope (R2) reflects fibrin polymerization and platelet-fibrin interaction. The R2 peak indicates completion of fibrin formation and has two variables, the time to peak (in m), which is an index of the rate of conversion of fibrinogen to fibrin, and peak amplitude (in U) corresponding to the maximum impedance to probe vibration, measured in clot signal U, an indicator of functional fibrinogen and platelet function. The downward slope (R3), the time to peak amplitude (in m), reflecting clot retraction away from the surface of the probe, an indicator of platelet function.

In cases of thrombocytopenia and/or impaired platelet function, a shallow R3 slope is obtained. Hence, the R3 gradient is recorded as platelet function (PF) by the analyzer.s6 Fig. 2b shows the classical Sonoclot signature, with actionable target variables corresponding to the stages of coagulation.

***Defined procedure risk in cirrhosis***

Procedure-related bleeding is common in cirrhosis patients but estimates of incidence vary widely.  Intagliata *et al*.s7 classified the risk of invasive procedures in liver disease with examples of high risk (cardiac, thoracic, intracranial surgery, etc.), intermediate risk (lumbar puncture, percutaneous or trans-jugular liver biopsy, trans-arterial embolization procedures, etc.) and low risk (paracentesis, thoracentesis, central line, etc.).

***Defined transfusion strategy in cirrhosis***

Royston and von Kiers8 developed the use of TEG in 60 patients undergoing complex cardiac surgery and compared the actual use of blood and blood components during cardiac surgery. Spalding *et al*.s9 and Görlinger *et al*.s10 devised algorithms based on ROTEM and according to the same principle. We have modified the concept for our patients with liver disease to predict the requirement of FFP and platelets using a TEG-based algorithm (Supplementary Table 2).

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