A658 - *Thromboelastometry versus standard coagulation tests versus restrictive protocol to guide blood transfusion prior to central venous catheterization in cirrhosis: a randomized controlled trial*

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**Introduction:**
There is a perceived increased risk of bleeding in cirrhosis patients undergoing invasive procedures. This lead to a high rate of empirical prophylactic transfusion, which has been associated to increased complications and cost. The best strategy to guide transfusion in these patients remains unclear. Our aim was to compare three strategies to guide blood component transfusion prior to central venous catheterization (CVC) in critically ill cirrhosis patients.

**Methods:**
Single center, randomized, double-blinded, controlled clinical trial conducted in Brazil [1]. All cirrhosis patients admitted to the ICU with indication for a CVC were eligible. Participants were randomized 1:1:1 to three transfusion strategies based on: (1) standard coagulation tests (SCT), (2) rotational thromboelastometry (ROTEM) and (3) restrictive. The primary outcome was proportion of transfusion of any blood component prior to CVC. Secondary outcomes were incidence of major and minor bleeding, ICU length of stay (LOS), and 28-day mortality. Analysis was intention-to-treat.

**Results:**
57 participants (19 in each group) were enrolled between September 2014 and December 2016. Most were male (64.9%) and listed for liver transplantation. The study ended after reaching efficacy in first interim analysis. There was no significant difference in baseline characteristics among groups. Regarding primary endpoint, there was 14 (73.7%), 13 (68.4%), and 3 (15.8%) events in SCT, ROTEM and restrictive groups, respectively (p <0.001). There was no difference between SCT and ROTEM groups (p >0.99). Overall 28-day mortality was 33.3% and was similar between groups. ICU LOS did not differ between groups. There was no major bleeding. Overall minor bleeding occurred in 10.53% with no difference between groups.

**Conclusion:**
A restrictive strategy is safe and effective in reducing the need of blood component transfusion prior to CVC in critically ill cirrhosis patients. A ROTEM-based strategy was no different from transfusion guided by SCT.

**References:**