Analysis of coagulation factor VIII in liver failure syndromes
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Background:
Role of factor VIII in liver failure, either as prognostic marker or as a counterbalance to other coagulation factor deficiency, is unclear.

Aim: To analyse role of coagulation factor VIII in liver failure syndromes

Methods:
We retrospectively recruited in-patient liver failure (both acute liver injury, ALF and acute-on-chronic, ACLF) patients with factor VIII levels (normal range:50-150%) tested. Other coagulation parameters (rotational thromboelastometry, ROTEM and plasma von-willebrand antigen, VWF) were noted.

Results:
• Factor VIII levels were similarly raised in both ACLF (256%, 139-497%) and ALI/ALF (255%,133-728%) groups.
• In ROTEM, factor VIII level negatively correlated with clotting time (r: -0.33, p-value:0.04).
• There was no correlation of Factor VIII levels to MELD score (r: -0.128, p-value:0.43) but tended to correlate with plasma VWF level (r: 0.25, p-value:0.10).
• Ten patients with adverse outcome had lower factor VIII levels (210%,133-728% v/s 266%,139-522%, p-value: 0.1).
• There was a trend to lower factor VIII being a significant predictor of in-hospital outcome (AUROC:0.7, 95% CI:0.4-0.9, p-value 0.1).(Fig)

Conclusion: Factor VIII level is elevated in liver failure syndromes and it negatively correlates to preserved clotting time in ROTEM. Contrary to other endothelial markers (e.g. VWF), higher factor VIII levels were associated with better in-hospital outcome.