Category :**Renal: extracorporeal support**

A253 - ***Effects of regional citrate anticoagulation on thrombin generation, fibrinolysis and platelet function in critically ill patients on CRRT***

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Introduction:

Regional citrate anticoagulation (RCA) is recommended as first line anticoagulation for continuous renal replacement therapy (CRRT). Studies report variable filter life despite optimal citrate protocols. The aims of this study were i) to investigate whether citrate affects thrombin generation, fibrinolysis and platelet function, and ii) to explore whether systemic blood samples are representative of intra-circuit clotting parameters.

Methods:

We screened critically ill patients who were prescribed CRRT for acute kidney injury (AKI). Patients with known thrombotic or bleeding tendencies and patients who had been prescribed blood products or other anticoagulants were expluded. In eligible patients, we measured coagulation parameters at baseline (pre-CRRT), followed by serial measurement of thrombin generation, D-dimer and platelet function during CRRT for up to 72 hours. We also compared samples taken from the arterial line with paired samples taken directly from the circuit.

Results:

11 patients were recruited (mean age 62.4, 82% male). At baseline, all patients had Factor VIII and von Willebrand Factor concentrations above reference range and also significantly increased peak thrombin generation. During CRRT, there was no significant variation in systemic maximum peak thrombin generation, time to peak thrombin generation, fibrinolysis and platelet function analysis. There was no significant difference between paired samples taken from the arterial line and the circuit.

Conclusion:

Critically ill patients with AKI requiring CRRT are hypercoagulable. RCA during CRRT does not affect thrombin generation, fibrinolysis or platelet function.