Anaesthetic management of a parturient with advanced cryptogenic liver cirrhosis

S Jayaweera, K Oliver, R Russell
Nuffield Department of Anaesthesia, Oxford University Hospitals NHS Foundation Trust, Oxford

Introduction

Advanced crytogenic liver cirrhosis is uncommon in pregnancy. It may result in unbalanced haemostasis which risks both haemorrhage and thrombosis, which are poorly predicted by laboratory testing.

History

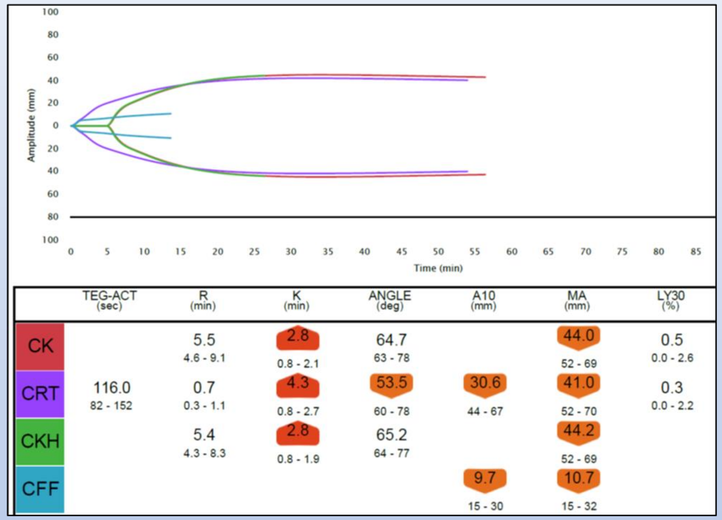
29-year-old woman with cryptogenic cirrhosis and portal hypertension with oesophageal varices and splenomegaly presented in early pregnancy. She was thrombocytopenic from liver failure and splenic sequestration, and relatively hypofibrinogenemic.

She had experienced a previous intrauterine death at 24 weeks due to multi-focal thrombotic placental infarction. The patient was optimised throughout pregnancy with beta blockade to reduce porto-systemic shunt. Variceal bleeding presents the greatest mortality risk but she declined pre-emptive banding.

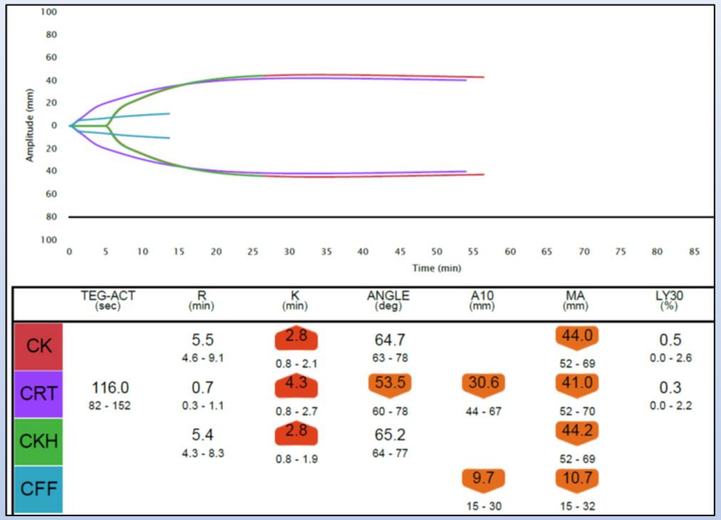
Caesarean section at 33 weeks was required for intrauterine growth restriction. Multifactorial coagulopathy made neuraxial anaesthesia hazardous, so general anaesthesia was employed.

Blood product replacement was guided by baseline blood counts and sequential viscoelastic haemostatic assays (TEG6). Cryoprecipitate, platelets and tranexamic acid were administered perioperatively.

Estimated blood loss was 1700 mL with 600 mL of cell salvage blood returned. Mother and baby were discharged on the fourth postoperative day.



Pre- operative TEG trace



Post operative TEG trace

Discussion

- Pregnancy-related liver disorders such as intrahepatic cholestasis may affect 3% of all pregnancies . Chronic liver disease and portal hypertension are much rarer[1].
- The third trimester usually heralds a gain of procoagulant factors and reduction of natural anticoagulants such as protein C[2]. However, as these factors are produced by the liver, the balance is impossible to predict. Also, the hyperdynamic circulation of pregnancy and compressed anatomical structures can lead to compromises in vulnerable collateral vessels.
- Avoidance of extremes of blood pressure is essential for successful outcome. Prompt replacement of blood products, utilising near-patient testing and cell salvage are invaluable.

References

1) Westbrook RH, Dusheiko G, Williamson C. Pregnancy and liver disease. Journal of Hepatology 2016; 64: 933-45.
2) Shekhar S, Diddi G. Liver disease in pregnancy. Taiwan Journal of Obstetrics and Gynaecology 2015; 54: 475–82.

Contact:
Sam.Jayaweera@ouh.nhs.uk