THE USE OF ROTEM TO FACILITATE REGIONAL ANAESTHESIA IN A PARTURIENT WITH FACTOR XI DEFICIENCY – A CASE REPORT

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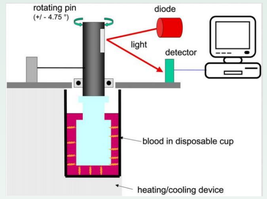
INTRODUCTION

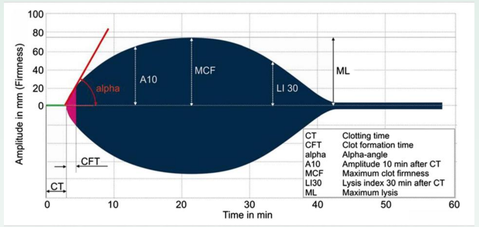
The value of point-of-care viscoelastic assays such as rotational thromboelastometry (ROTEM) in the management of coagulopathy associated with post-partum haemorrhage is well established. The use of ROTEM to guide clinical decisions in other disorders of obstetric haemostasis has also been described.[1] We present a patient with Factor XI (FXI) deficiency where the use of ROTEM assisted with assessment of bleeding risk and facilitated the provision of central neuraxial blockade.

Factor XI Deficiency
(AKA: Haemophilia C and Rosenthal Syndrome)

- Rare genetic autosomal bleeding disorder, can also be acquired
- Mutation in F11 gene causing deficient levels of functional Factor XI
- Predominant in Ashkenazi Jewish population, ♀ and ♂ equally affected
- Symptoms include nosebleeds, bruising, menorrhagia and bleeding following childbirth or surgical procedures
- APTT prolonged, PT normal
- Bleeding is unpredictable and inconsistent with factor XI levels
- Treatment includes FFP, Factor XI Concentrate and fibrinolytics

ROTEM





ROTEM images above taken from https://www.nmthoracic.org/components/com_rseventspro/assets/images/files/DEATON-ROTEM%20in%20Bleeding%20Patient.pdf

Case Report

- A 37-year-old G2P1 presented to our antenatal anaesthetic clinic in her second pregnancy with Factor XI (FXI) deficiency with non-bleeding phenotype.
- She reported nose bleeding in childhood and a family history of this inherited condition

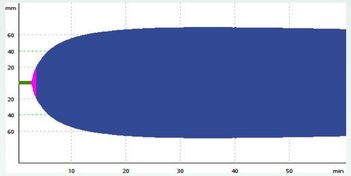
First pregnancy at a tertiary hospital:

- FXI plasma level was 0.46 IU ml^{-1} (0.60 - 1.50 IU ml^{-1})
- Anaesthetic antenatal plan documented a contraindication to regional anaesthesia – alternatives suggested
- Presentation in labour at 38/40 – received GA for an emergency section for failure to progress

- The patient wanted to avoid a repeat emergency caesarean delivery under GA

Second pregnancy at West Middlesex:

- Patient requested an elective c-section under regional anaesthesia
- Plasma XI level 0.72 IU ml^{-1} (normal 0.6 – 1.50 IU ml^{-1})
- Care discussed in joint haematology-obstetric MDT meeting and advice sought from her tertiary care specialist consultant
- Given the history of non-bleeding phenotype and with additional use of ROTEM team agreed to provide regional anaesthesia safely
- Patient presented in labour before the elective caesarean date
- ROTEM sample taken, INTEM CT 181 within normal range (109-225 seconds) therefore epidural placed for labour analgesia
- Proceeded to a category 3 section under regional anaesthesia



Discussion

- The severity of bleeding often does not correlate with the plasma FXI level and there is no consensus on the safe level of FXI necessary for neuraxial anaesthesia.
- A series of case reports have reported that parturients with FXI deficiency were managed with regional anaesthesia and concluded that FXI deficiency is not an absolute contraindication to neuraxial techniques.[2]
- We searched the published literature of cases and with careful MDT antenatal planning, and the addition of ROTEM we were able to provide regional anaesthesia for this patient, in our busy district general maternity unit.
- The agreed management plan was uploaded into the patients electronic record so it was readily accessible to all staff. This was of value when she went into labour before her planned caesarean section.

References
1. Davies J, Harper A, Kadir RA. The role of rotational thromboelastometry in assessment of haemostasis during pregnancy in women with factor XI deficiency. Haemophilia. 2016 Mar;22:276-284.
2. Singh A, Harnett MJ, Connors JM, Camann WR. Factor XI deficiency and obstetrical anesthesia. Anesthesia & Analgesia. 2009 Jun;108(6):1882-5.

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