

Postpartum Haemorrhage – make
sure you give enough fibrinogen!

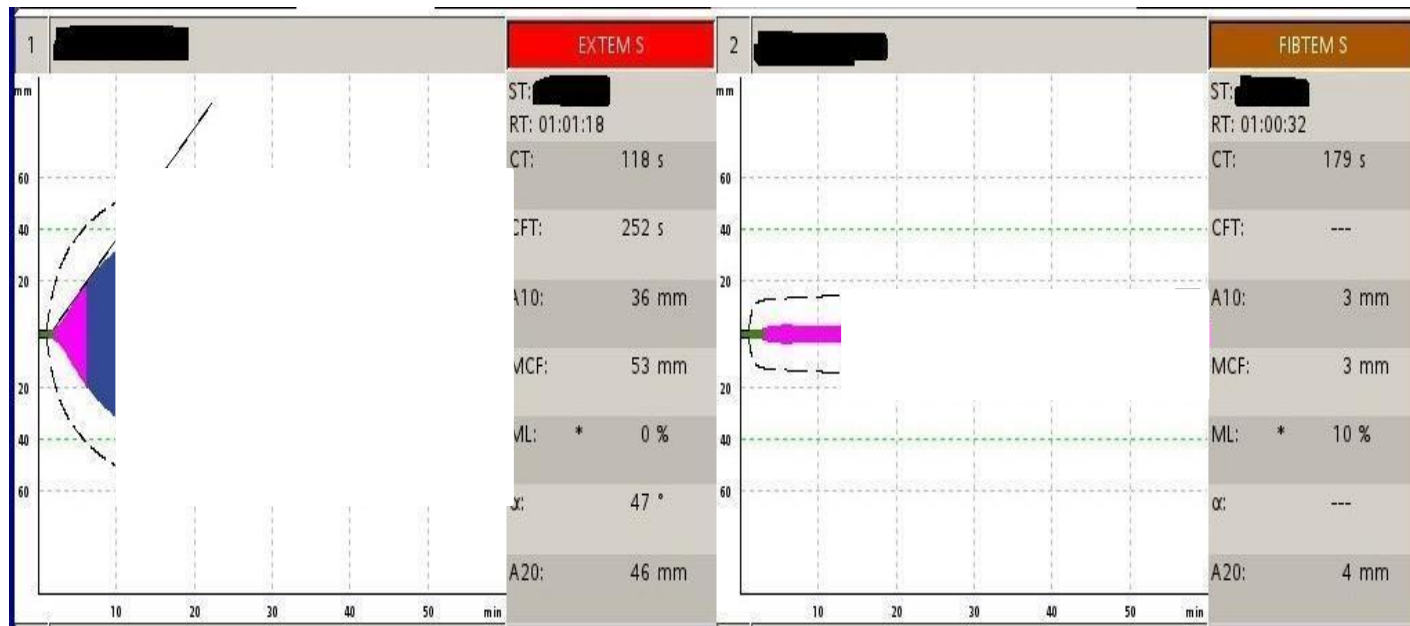
Disclaimer / Pre-amble

- These cases have been de-identified to protect the identity of the patient and the treating teams.
- These are all real cases and real ROTEMs. The individuals involved in these difficult cases have agreed to anonymously share these with us – thank you for your generosity.
- Successful management of the bleeding patient involves much more than just administration of blood products.
- The primary aim of these cases is to teach the use ROTEM guided blood product therapy. We have deliberately not included a lot of detail about some of the other aspects of management which might detract from this focus.

CASE 2012 (A5 not displayed back then)

- Postpartum haemorrhage, patient wt approx 60kg
- COAGs Hb 105, Plt 135, Fib 1.4, INR 1.3

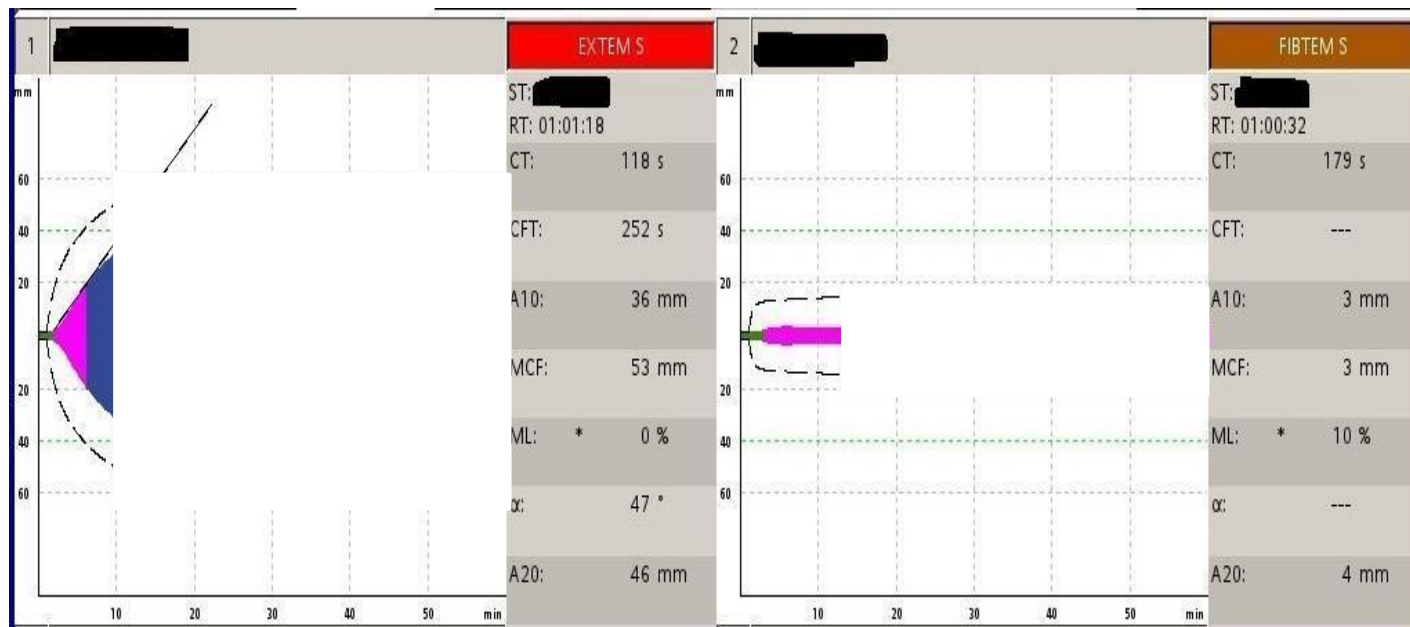
Initial ROTEM before any treatment (edited so that it looks like it would at about 11min when you would be making treatment decisions in real life).



- What treatments / blood products would you now give if using the ROTEM algorithm.
- Are there any discrepancies between the traditional coags and the ROTEM – how do you explain these?

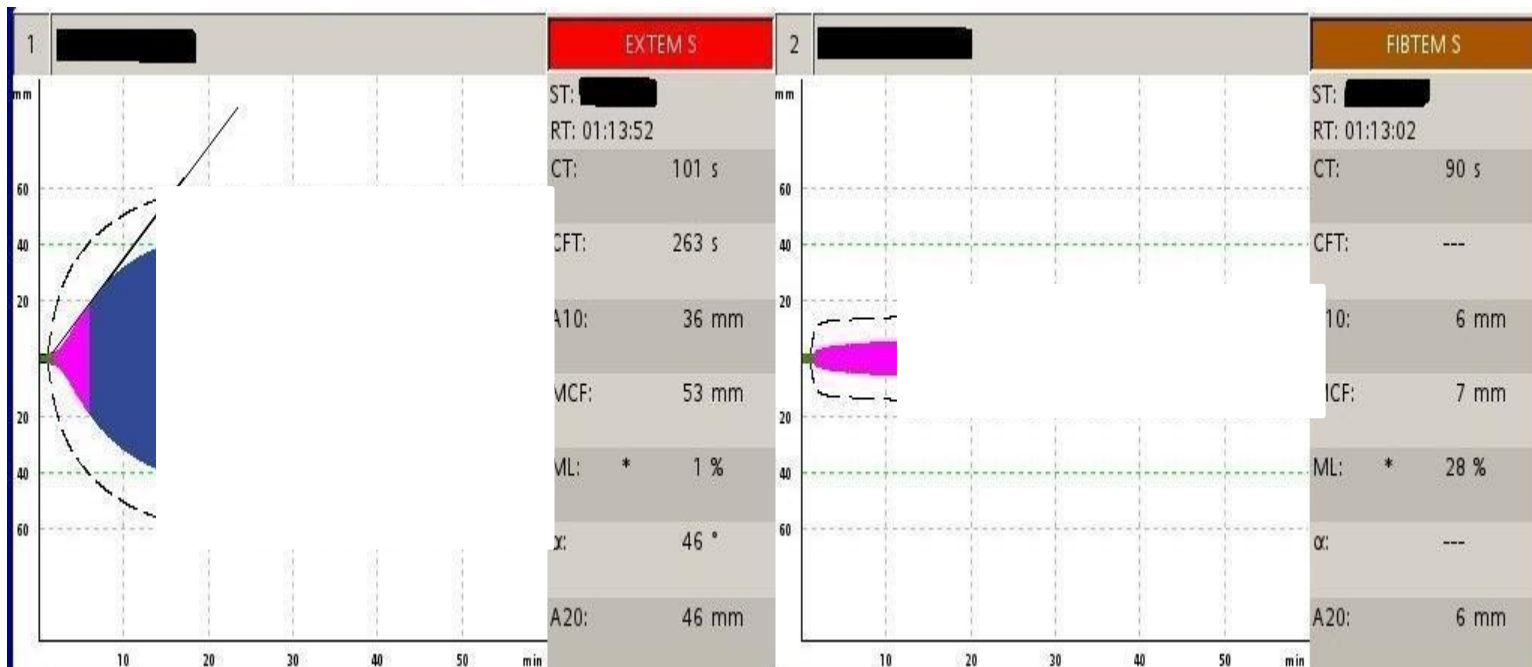
Applying the algorithm:

- Fibrinogen: Fibtem A5 – probably about 2mm – critical fibrinogen deficiency. Note traditional clauss fibrinogen conc 1.4g/L misleading. Aim for fibtem A5 = 14mm, treat with Fib conc 5g or cryo 25units (patient only 60kg)
- Tranexamic Acid – no evidence of fibrinolysis – unknown whether she has had TXA – probably at risk of developing fibrinolysis – consider giving 1g.
- Platelets – Extem A5 > 25mm (probably about 25-30mm) – no need for platelets (confirmed by plt count of 135)
- Clotting factors (thrombin generation) – Extem CT is prolonged at 118s but this will probably correct with fibrinogen treatment alone. No need for FFP or prothrombinex – if any is given 1 unit FFP would suffice (60kg pt).



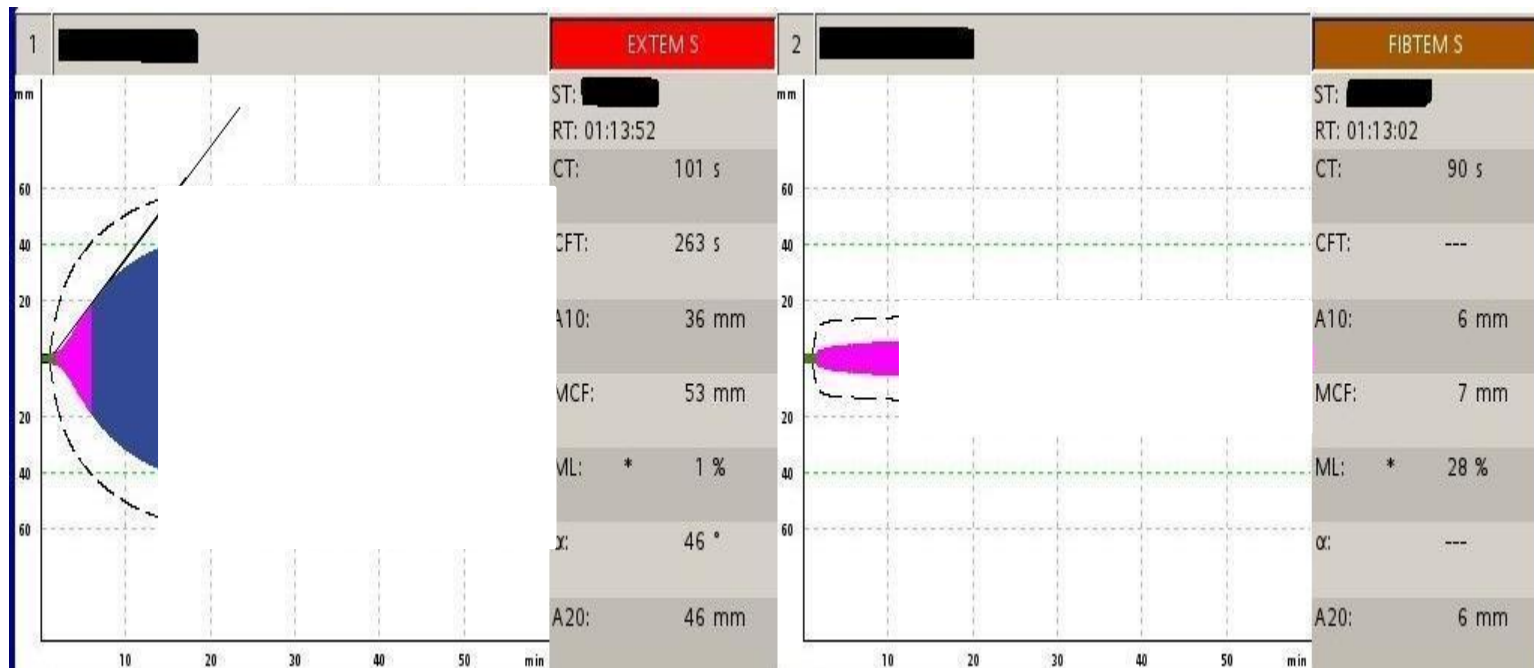
- Actual treatment cryoprecipitate 8 units
- (COAGs Hb 68, Plt 112, Fib 1.6, INR 1.4 – but only available about 30 min after ROTEM)
- 2nd ROTEM 75min after the first (edited so that it looks like it would at about 11min when you would be making treatment decisions in real life).

- What treatments / blood products would you now give if using the ROTEM algorithm.
- Are there any discrepancies between the traditional coags and the ROTEM – how do you explain these?



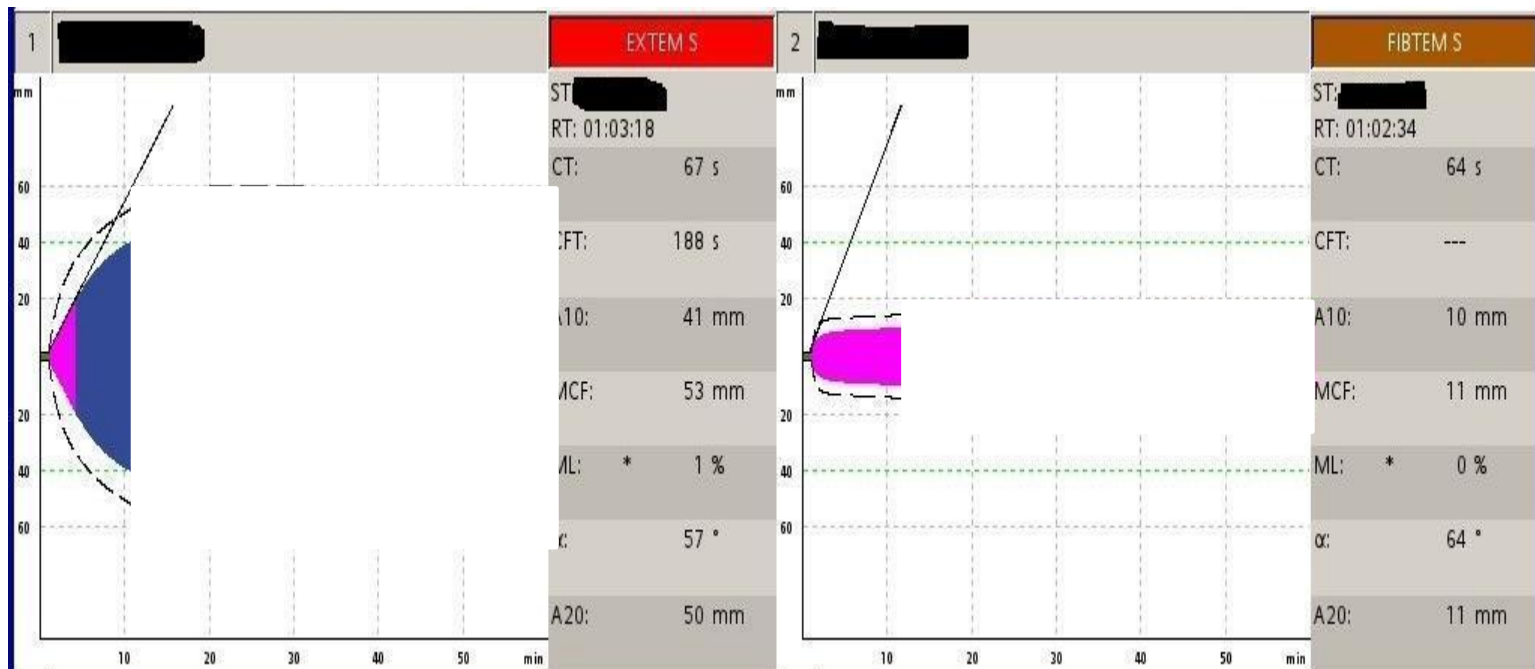
Applying the algorithm:

- Fibrinogen: fibtem A5 probably about 5-6mm – critical fibrinogen deficiency still. Demonstrates that cryo 8units is insufficient in severe deficiency. Aim for fibtem A5 = 14mm, treat with Fib conc 3-4g or cryo 15-20units
- Tranexamic Acid – no evidence of fibrinolysis – unknown whether she has had TXA – probably at risk of developing fibrinolysis – consider giving 1g.
- Platelets – Extem A5 > 25mm (probably about 25-30mm) – no need for platelets (confirmed by plt count of 112)
- Clotting factors (thrombin generation) – Extem CT has partially corrected but is still prolonged at 101s but this will correct with fibrinogen treatment alone. No need for FFP or prothrombinex – if any is given 1 unit FFP or prothrombinex 500unit would probably correct the CT to normal.



- Treated with another cryoprecipitate 8 units and 2 units red cells
- 3rd ROTEM (3 hours later)
- COAGs Hb88, Plt 99, Fib 2.6, INR 1.2

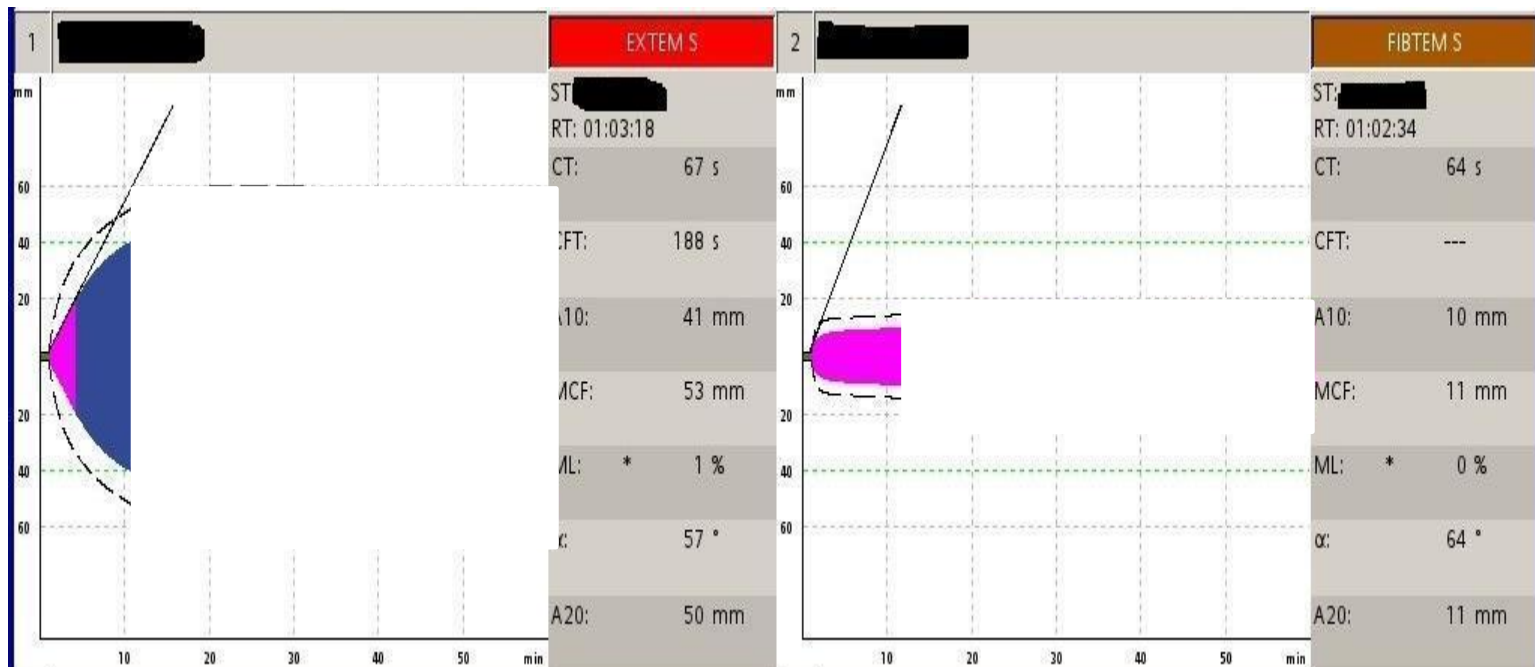
- What treatments / blood products would you now give if using the ROTEM algorithm.
- Are there any discrepancies between the traditional coags and the ROTEM – how do you explain these?



Applying the algorithm:

Only treat if the patient is bleeding

- Fibrinogen: fibtem A5 probably about 8-9mm – mild fibrinogen deficiency still. Demonstrates again that cryo 8units is insufficient in severe deficiency. Aim for fibtem A5 = 14mm, treat with Fib conc 2g or cryo 10units
- Tranexamic Acid – no evidence of fibrinolysis
- Platelets – Extem A5 > 25mm (probably about 34-36mm) – no need for platelets (confirmed by plt count of 99)
- Clotting factors (thrombin generation) – Extem CT has now fully corrected with fibrinogen treatment alone.



Discussion Points

- When the fibtem is very low you will need to give a very big dose of fibrinogen to restore normal haemostatic function.
- Traditional doses of 8-10units of cryoprecipitate are not enough!
- Use a dosing table so that you give the right amount the first time – otherwise you might take hours (and a lot more potential unnecessary ongoing blood loss) before you get there!