

Strategic management of critical obstetric hemorrhage with disseminated intravascular coagulation by using a portable fibrinogen measuring device

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Introduction

Strategic management is needed to avoid maternal death due to PPH!

- Evaluation – hemodynamics, oxygen carrying capacity, **coagulability**
- Treatment – fluid therapy, massive transfusion, supplementation of coagulation factors

Ways to evaluate coagulability

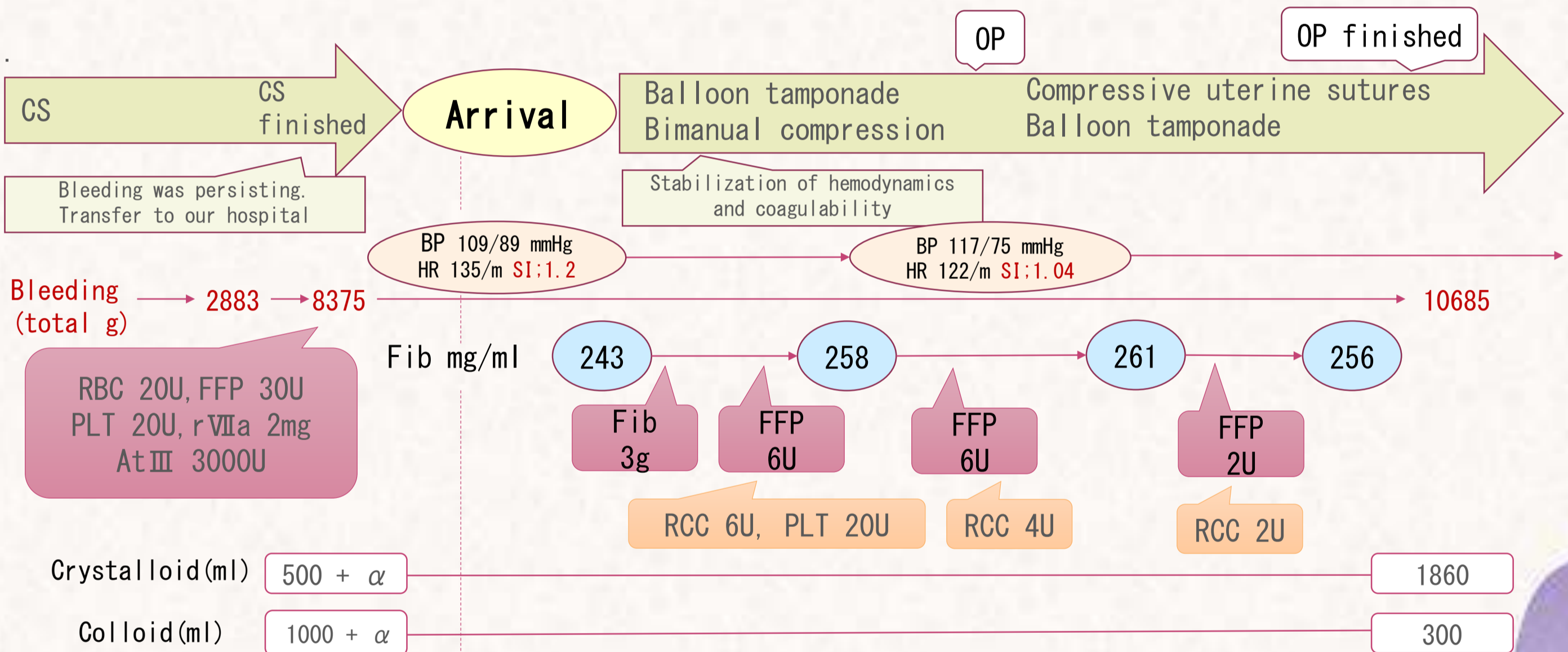
- Conventional laboratory-based test: time consuming, unsuitable for emergency use
- Thromboelastography (TEG®, ROTEM®): expensive, complex to handle, requires training and experience
- Portable fibrinogen measuring device (CG02N®): short turnaround, can be handled with ease



CG02N® (A&T Corporation, Kanagawa, Japan) 282x268mm (72 x72 DPI)

Case presentation

A 32-year-old woman (G2, P2) was diagnosed with non-reassuring fetal status due to placental abruption and underwent emergency cesarean section. After the operation, a critical postpartum hemorrhage occurred, and she was transferred to our hospital.



Discussion

This hemorrhage resulted from DIC following placental abruption. Severe consumptive coagulopathy must have occurred soon after onset. Proper evaluation of coagulability was required for treatment and transfusion strategy. If we had used a laboratory-based test, there would have been some possibility of a delay in judgement. Therefore, we used this portable device and we were able to confirm on the spot that coagulopathy was not so severe, so we decided to perform the abdominal operation. Also, during the surgery, it was very useful in evaluating coagulation status at the proper time, at the point-of-care and with ease. That enabled us to keep plasma fibrinogen more than 200mg/dl and plan transfusion strategy. Those allowed us to make proper systemic and hematologic management possible, avoid excessive transfusion and save this parturient.

Conclusion

A portable fibrinogen measuring device made strategical and proper management of the critical obstetric hemorrhage possible!

References

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- 2) Hayakawa M, Gando S, Ono Y, Mizugaki A, Katabami K, Maekawa K, et al. Rapid evaluation of fibrinogen levels using the CG02N whole blood coagulation analyzer. Seminars in thrombosis and hemostasis. 2015;41(3):267-71.