Recombinant activated factor VIIa in case of pregnancy with acute hepatic failure and massive blood loss

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Dear Editor,

The case report 'Recombinant activated factor VIIa in case of pregnancy with acute hepatic failure and massive blood loss' published in *MJAFI* in October 2011 (*MJAFI* 2011;67:390–393) was interesting and we would like clarification on some points and offer these comments.

1. Recombinant activated factor VIIa (rFVIIa) is thought to act locally at site of tissue injury and vascular wall disruption by binding to exposed tissue factor, generating small amounts of thrombin that are sufficient to activate platelets.¹
2. The activated platelet surface can then form a template on which rFVIIa directly or indirectly mediates further activation of coagulation ultimately generating much more thrombin and leading to the conversion of fibrinogen to fibrin.²
3. Therefore adequate platelet count is must before administering rFVIIa. Here platelet count was just 40,000/mm³.
4. Anasarca in a case of acute hepatic failure cannot be explained. Serum albumin level and renal parameters are not given in this case.
5. Acute hepatic failure in ultrasonography should reveal shrunken liver, not a normal liver span.
6. Aetiology of acute hepatic failure not clearly mentioned.
7. Was it HELLP (Haemolysis Elevated Liver Low Platelet)? The HELLP syndrome can explain all the clinical features of the index patient and the only definitive treatment for HELLP is delivery. Most laboratory values normalise in 48 hours. For patients with ongoing or newly developing postpartum symptoms of HELLP, modalities as antithrombotic agents, plasmapheresis, and dialysis may be employed. Disseminated intravenous coagulopathy may be the only manifestation in HELLP as in this case with raised bilirubin, lactate dehydrogenase, fibrin degradation products, and D-dimer.

REPLY

The authors are grateful for the comments. Few clarifications are as under. The patient had a platelet count of 40,000 prior to six units of fresh frozen plasma, five packed cells, and one unit of single donor platelets being transfused as has been mentioned in the text of the article. The patient was extremely unstable and after confirming the absence of acidosis or hypothermia, rFVIIa was administered for the first time immediately after the single donor platelets were infused as she was thrombocytopenic. One single donor platelet pack is expected to increase the platelet count by 30,000 to 35,000 therefore the

8. Was this patient not an ideal candidate for liver transplantation?
9. Many case reports and case series have examined the use of rFVIIa in patients with excessive or life-threatening blood loss occurring in array of clinical settings.³ However, no randomised controlled clinical have been completed, which is not surprising, given the difficulty of performing meaningful studies in such heterogeneous situations. Many reports claim that the use of rFVIIa resulted in rapid reduction of blood loss or a decrease in transfusion requirements after other therapeutic measures have failed. Although many of these reports appear to be compelling, it is difficult to assess the usefulness of rFVIIa properly since publication bias in case reports and series is likely.

REFERENCES

1. Mannucci PM. Haemostatic drugs. *N Engl J Med* 1998;339:245–253.
2. Butenas S, Brummel KE, Brandt RF, Paradis SG, Mann KG. Mechanism of factor VIIa dependent coagulation in hemophilia blood. *Blood* 2002;99:923–930.
3. Levi M, Peters M, Buller HR. Efficacy and safety of recombinant factor VIIa for treatment of severe bleeding: a systematic review. *Crit Care Med* 2005;33:883–890.

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expected platelet count prior to the administration of rFVIIa was expected to be in the range of around 70,000 which was considered adequate. Platelet count and coagulation profile was not sent immediately prior to administration of rFVIIa and therefore in the table it seems that counts prior to its administration were 40,000.

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