Reviewer’s report

Title: Failure of recombinant factor VIIa in a patient with severe polymicrobial sepsis and postoperative uncontrolled intraabdominal bleeding

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Reviewer: Anne-Cornelie de Pont

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General
In this well written article, Dr. Conen and coworkers report the case of a patient with abdominal sepsis and disseminated intravascular coagulation (DIC), treated with recombinant factor VIIa (rFVIIa).

Major Compulsory Revisions:

• In the coagulation profiles on page 5, the authors should have mentioned the values of prothrombin time (PT) and fibrin markers. When these values are not given, the reader cannot differentiate between non-overt and overt DIC (Bakhtiari et al, Crit Care Med 2004).
• In a retrospective analysis, Stein et al. identified lactate and PT as predictors of a lack of response to rFVIIa (ref. 9). Because of this, the authors should have mentioned the levels of PT and lactate of their patient. Moreover, they should discuss the impact of lactate and PT on the failure of rFVIIa treatment in their patient.
• Mentioning the lactate levels of the patient is also important because the patient used metformin, which can cause lactic acidosis, especially in patients with sepsis and renal failure (Spiller et al. Ann Pharmacother 2004). The authors should comment on this.
• In the discussion, the authors should emphasize the role of acidosis: Meng et al state that a decrease in pH from 7.4 to 7.0 reduces the activity of FVIIa by over 90% (ref .10).
• In the discussion, the authors should more extensively comment on the use of rFVIIa in patients with DIC. As DIC is associated with systemic tissue factor exposure to the circulation, rFVIIa can theoretically lead to a more severe coagulopathy and to an aggravation of microvascular thrombosis (Levi et al. Crit Care Med 2005). The authors should also compare the successful rFVIIa treatment of a patient with DIC as described by Moscardo et al. (Br J Haematol 2001) to the unsuccessful rFVIIa treatment of their patient.
• The tables 1 and 2 and figure 4 do not give any additional information and can be deleted.

Minor Essential Revisions:

• In the introduction, the authors should give references to their statements of the first two lines. In addition, the sentence can be better formulated: ‘Recombinant factor VIIa (rFVIIa) has been used since 1988 to control bleeding in haemophilia A and B patients with inhibitors against factor VIII and IX (Hedner et al. Lancet 1988, Macik et al. Am J Hematol 1989, Hedner U. Blood Coagul Fibrinolysis 1990)
• In the description of the different randomized trials (page 3, line 16-21), the separate references should be given: … patients with intracerebral haemorrhage (4), ... patients suffering a blunt trauma (5),... patients after haematopoietic stem cell transplantation (6), ... end-stage liver disease (7).
• Page 3, line 21: orthotropic must be orthotopic
• In reference 2, the authors should refer to the website: www.swiss-icu.ch/NovoSeven_V07.pdf

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No
Declaration of competing interests:

I declare that I have no competing interests.