Safety of rVIIa for Refractory Bleeding in Patients with Mechanical Circulatory Assist Device

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Safety of Recombinant Activated Factor VII for the treatment of Refractory Bleeding in patients Supported by Mechanical Circulatory Assist Device.
Background: The use of Recombinant activated factor VII (rVIIa) has emerged in recent years as a safe and efficient mode for treating intractable massive bleeding, and reducing the need for allogenic blood transfusion after major cardiac operations. Patients under mechanical circulatory assist require anticoagulation. It is considered hazardous to discontinue anticoagulation in these patients. Little information exists regarding adult patients on mechanical circulatory support treated by rVIIa. Few studies report potentially fatal thromboembolic complications specifically when rVIIa is administered to these patients. The risk of circuit thrombosis or failure in patients with mechanical support is yet to be determined.
Methods: We conducted a retrospective analysis of patients supported by various assist devices and treated by rVIIa. Data included the amount of blood loss and transfusion requirements as well as any thromboembolic complications after rVIIa administration.
Results: Between the years 2009-2011 eight patients were treated by rVIIa while on mechanical circulatory support. The type of mechanical support was BIVAD (2 patients), LVAD (2 patients) and ECMO (4 patients). The indications for support varied from amniotic fluid emboli to graft failure after heart or lung transplantation and post cardiotomy heart failure. The haemostatic effect of rVIIa was significant - the blood loss was reduced significantly (445 ml/h Vs 171 ml/h). No thromboembolic complications were noted.
Conclusions: Administration of rVIIa to adult patients supported by circulatory assist device is safe and should be considered in cases of massive hemorrhage.