

SCA 41

FACTOR VIIA FOR SEVERE CARDIAC SURGICAL BLEEDING

Diprose P¹, Gill R¹, O'Shaughnessy D², Herbertson MJ¹

Cardiac Anaesthesia¹ and Haematology², Southampton, Hampshire, United Kingdom

Introduction Severe peri-operative bleeding in cardiac surgery is multi-factorial in origin. Recombinant Factor VIIa (rFVIIa, Novo Nordisk, Denmark) has been used peri-operatively since 1988[1]. It promotes formation of blood clot by a range of actions. We introduced it into our cardiac surgical programme for severe intractable coagulopathic bleeding towards the end of 2001.

Purpose of study Assess efficacy and safety of rFVIIa in cardiac surgery by chart review.

Methods Charts for the patients who received rFVIIa were reviewed for effects on clinical status, blood loss and transfusion need

Results 15 adult patients had received rFVIIa for severe cardiac surgical bleeding between October 2001 and October 2002. Nine of these survived to hospital discharge. Of the six deaths, four patients died of continued haemorrhage on the operating table, one died at 5 days post-op from multiple organ failure, and, the other from severe neurological injury. A total of 12 sets of notes were available for review at the time of publication. Median total dose of rFVIIa administered was 24mcg/kg (range 13-91mcg/kg). There were marked reductions in estimated hourly blood loss from a median 1250ml/hr (range 182-1500ml/hr) to a median 29ml/hr (range 7 to 60ml/hr) after rFVIIa in the initial survivors. Reductions in blood product use were also noted (table 1).

Table 1

Product	Before Novo7	After Novo7
FFP	1(0-12)	0(0-2)
Platelets	2.5(0-4)	0(0-3)
Cryoprecipitate	5(0-10)	0
Beriplex (iu)	1000(0-2000)	0

Median units of blood product used for the immediate survivors (range)

Conclusions: There have been two published reports on the use of rFVIIa in cardiac surgery involving one and five patients respectively[2,3]. In this review we have found that 11 out of 15 patients all with severe peri-operative bleeding appeared to benefit from the administration of rFVIIa, although 2 subsequently died from other causes. There were no thrombotic complications noted. Further research into the optimal role for rFVIIa in cardiac surgery is currently being undertaken within our unit.

References:

1. Hedner U, Glazer S, Pingel K et al: Successful use of recombinant factor VIIa in patient with severe haemophilia A during synovectomy. *Lancet* 1988,2:1193.
2. Hendriks HG, van der Maaten JM, de Wolf J et al: An effective treatment of severe intractable bleeding after valve repair by one single dose of activated recombinant factor VII. *Anesth. Analg.* 2001,93:287-9.
3. Al Douri M, Shafi T, Al Khudairi D et al: Effect of the administration of recombinant activated factor VII (rFVIIa; NovoSeven) in the management of severe uncontrolled bleeding in patients undergoing heart valve replacement surgery. *Blood Coagul. Fibrinolysis* 2000,11 (Suppl 1):S121-S127