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Reversal of Direct Oral Anticoagulants (DOACs) - Direct Thrombin Inhibitors (i.e.Dabigatran) and Direct Factor Xa Inhibitors (i.e.Rivaroxaban or Apixaban).

Although anecdotal reports and animal studies have been published using plasma protein products for reversal of Direct Oral Anticoagulants, at this time there is still no study in humans using clinical bleeding outcomes as an endpoint that has evaluated any reversal agent. With this lack of evidence for dosing, safety and efficacy of these agents the National Advisory Committee on Blood and Blood Products (NAC) cannot develop a recommendation for use of prothrombin complex concentrates, FEIBA or recombinant Factor VIIa in the reversal of Direct Thrombin or Direct Factor Xa Inhibitors. The administration of Frozen plasma or Vitamin K will not be of any benefit in the setting of DOAC associated bleeding unless other concomitant coagulopathy is present.

However, it is important to ensure that the following steps are considered in patients who present with moderate or major bleeding while on a DOAC:

1. Consult with Hematology/Thrombosis and/or Transfusion Medicine Physician.
2. Hold the anticoagulant.
3. Hold any concomitant antiplatelet drugs. Transfusion of platelets may be appropriate if major bleeding and history of antiplatelet use.
4. Investigate and treat source of bleeding. Utilize local therapy /site control as appropriate.
5. Transfuse red cells as appropriate.
6. If adequate renal function – delay surgical / interventional procedures until drug has cleared if possible.
7. Consider use of Tranexamic acid (No studies are available for dosing but possible doses could be 1 gram or 10 mg/kg IV).
8. If compromised renal function – consider dialysis for removal of Direct Thrombin Inhibitors. No efficacy in Direct Factor Xa inhibitors.
9. Charcoal may be of benefit in Direct Thrombin Inhibitor overdose if administered within 2-4 hours post dose.

Additional information regarding these agents is available on the Thrombosis Canada website at www.thrombosiscanada.ca.