



e-Network Forum

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Management of thrombocytopenia associated with therapeutic plasma exchange (TPE), when the thrombocytopenia is believed to be heparin-induced

A transfusion medicine physician in Pennsylvania requests advice from e-network colleagues regarding the management of thrombocytopenia associated with therapeutic plasma exchange (TPE), when the thrombocytopenia is believed to be heparin induced. Specifically, if a patient undergoing TPE has their venous access maintained using heparin, but the patient develops Heparin Induced Thrombocytopenia (HIT), how is the patency of the venous catheter to be maintained? Members might wish to review the brief [earlier discussion](#) on this forum when preparing to respond to the Pennsylvania physician's question.

The following opinions were submitted in response to the Pennsylvania physician's question.

1. **A transfusion medicine physician in Alabama** reported that her group has seen several HIT patients requiring therapeutic apheresis. She adds that for patients with HIT requiring heparin therapy there are **alternatives** such as Lepirudin (Refludan) . However, Lepirudin is not as simple to dose as heparin, especially for patients undergoing surgery. Her group looked into using Lepirudin in the apheresis line between procedures (their standard protocol for heparin is 0.5mL of 10,000units/mL heparin plus 1.5mL saline, which gives 2ml with a total of 5,000units heparin), but the pharmacists researched this idea and cautioned that Lepirudin is **not approved** for use in keeping lines patent. Thus, they now keep the line open with a very slow saline drip between procedures.

ADDENDA Nov. 4, 2002

2. **A transfusion medicine physician in Houston** reports that they routinely pack central lines with ACD for all TTP patients. This is primarily done to eliminate confusion regarding HIT versus TTP. ACD, in their experience, is effective in maintaining line patency. The situation may be aided by the fact that these patients are routinely treated on a daily basis. When dealing with dual considerations of TTP and HIT the real challenge is to determine the role of each in contributing to the thrombocytopenia and hypercoagulable state. The Houston group, through Dr. Joel Moake's laboratory, is fortunate in having access to VWF binding assays to assess TTP activity in problem cases. As they gain more information about the specific deficiency (ADAM-13), it is hoped that selected assays may guide therapy. Patients in whom there is a clinical suspicion of HIT need anticoagulation with either Refludan or Argatroban until HIT is ruled out, provided there are no contraindications to anticoagulation. The Houston physician is curious about the rationale for therapeutic apheresis in HIT. While its use was described in older reports, direct thrombin inhibition is now the therapy of choice.

ADDENDA Nov. 5, 2002

3. **The inquiring transfusion medicine physician in Pennsylvania** replies that as a clarification to the original query, his patient is undergoing daily apheresis for Goodpasture's syndrome and not HIT. The HIT was suspected coincidentally. The Pennsylvanian is also curious about using ACD in the catheter as mentioned by the group in Houston. Does the Houston group use straight ACD-A instilled into the catheter? How long do they leave it in the catheter? As many details as possible would be appreciated.
4. **The physician at the Houston facility** reports that they use ACD-A to pack catheters for TTP patients. In their experience, catheter patency is well-maintained when lines are accessed daily or on QOD basis. This physician has no firm information on anticoagulation for more prolonged intervals using this approach.

Please submit comments to the [e-Network Forum](#).



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Addenda: Nov. 4 & 5, 2002