Use of Fondaparinux for DVT Prophylaxis in High-Risk Obstetric Patients with Heparin Allergy

Mount Sinai West

SOAP Society for Obstetric Anesthesia and Perinatology

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ANTICOAGULATION GUIDELINES FOR NEURAXIAL PROCEDURES

Guidelines to Minimize Risk Spinal Hematoma with Neuraxial Procedures

STANFORD SCHOOL OF MEDICINE

Stanford University Medical Center

	Minimum time between last dose of anticoagulant & spinal injection or catheter placement * longer in CRI/AKI	Use of Antithrombotic Agents in Patients with Indwelling Neuraxial Catheters	Minimum time between spinal injection or catheter removal & next dose of anticoagulant
TRADITIONAL ANTICOAGULANTS			
Warfarin	when INR < 1.5	CONTRAINDICATED	2 hours
Heparin full dose IV	when aPTT < 40. Check after holding 2 hours	Indwelling catheter OK	I hour
Heparin minidose (5000 Units) SQ BID	No contraindication		
Heparin minidose (5000 Units) SQ TID	when aPTT < 40 or 6 hours after last dose		
Heparin full dose (>5000 Units) SQ bid or TID	when aPTT <40 or 6 hours after last dose		
Fondaparinux (Arixtra) <2.5mg SQ qd (prophylaxis)	36-42 hours	CONTRAINDICATED	6-12 hours
Fondaparinux (*Arixtra*) 5-10mg SQ qd (full dose)	Contraindicated		
Enoxaparin (*Lovenox*) 1mg/kg SQ bid; 1.5mg/kg SQ qd (full dose)	24 hours*		24 hours
Enoxaparin (*Lovenox*) 40mg SQ qd (prophylaxis)	12 hours*		6-8 hours
DIRECT THROMBIN INHIBITORS			
Argatroban	unknown orwhen DTI assay < 40 or aPTT < 40	CONTRAINDICATED while catheter in place	unknown
Bivalirudin (*Angiomax*)			
Lepirudin (*Refludan*)			
Dabigatran (Pradaxa)	7 days		
ORAL ANTIPLATELET AGENTS			
Aspirin/NSAIDS	May be given, No time restrictions		
Clopidogrel (Plavix) Prasugrel (Effient)	7 days	CONTRAINDICATED while catheter in place	2 hours
Ticlopidine (Ticlid)	14 days		
GP IIB/IIIA INHIBITORS			
Abxicimab (*Reopro*)	48 hours	CONTRAINDICATED while catheter in place	2 hours
Eptifibatide (*Integrilin*)	8 hours*		
Tirofiban (Aggrastat)	8 hours*		
THROMBOLYTIC AGENTS			
Alteplase (TPA) Full dose for stroke, MI, etc	10 days	CONTRAINDICATED while catheter in place	10 days
Alteplase (TPA) 2mg dose for catheter clearance	May be given, No time restrictions (maximum dose 4mg/24 hrs)		
NEW AGENTS			
Apixaban (Eliquis)	unknown for neuraxial procedures but hold 48 hours for surgery		

Date 3/28/2013

BACKGROUND

- Venous thromboembolism (VTE) is leading cause of mortality in pregnant women in the developed world
- Unfractionated & LMWH used for DVT prophylaxis in labor 2/2 researched safety profile (not teratogenic)
- Direct Oral Anticoagulants (DOACs) have become increasingly popular in non-pregnant patients
  - Fewer drug-drug and food-drug interactions
  - No routine labs needed for monitoring
  - Can be used in patients with heparin allergy or history of HIT
  - Unclear safety profile in pregnancy due to lack of research.
  - Require increased time from cessation to neuraxial anesthesia,
  - Increasing risk of post-partum hemorrhage.

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CASE DESCRIPTION

- **28 yo G2P1101 @ 28 wks admitted for preeclampsia**
- PMH: **Sickle cell disease** s/p stem cell transplant, **DVT** of RUE, **Anaphylactic heparin allergy**
- Medications: **Fondaparinux**
- Planned clinical course: Maintain fondaparinux until 58 hours prior to IOL
- Actual clinical course: Emergency C section 2/2 worsening pre-eclampsia under GA
  - Remained intubated 2/2 to respiratory failure concerning for PE
  - Transferred to ICU. CT chest showed atelectasis and pulmonary edema (no PE)
  - Extubated on POD 2 after furosemide therapy

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DISCUSSION

- Fondaparinux can be used safely for DVT prophylaxis in the high-risk obstetric patient with heparin allergy despite imminent delivery
- Planning required between multiple sub-specialties, including anesthesiology, OBGYNs, hematology
- Requires access to FEIBA-NF with ability to treat side effects (such as pulmonary embolism)
- Requires preparedness for neuraxial anesthesia vs. general anesthesia
- Need for research in understanding long term effects of DOAC use and fetal development