RIVERSIDE HealthCare

SELECTIVE ORDER

Argatroban Protocol for heparin induced thrombocytopenia

1. Argatroban is restricted to patients with heparin allergy.
2. Discontinue all heparin products including flushes and low molecular weight heparins.
3. Baseline: CBC, PT/INR, PTT, AST, ALT, Total bilirubin, albumin prior to start of argatroban
4. Daily: CBC
5. No Intramuscular injections. Notify physician for any bleeding.
6. Initial infusion rate:

□ Normal: Argatroban IV infusion, initiate at 2 mcg/kg/min (Normal hepatic function, not critically ill)
□ Impaired: Argatroban IV infusion, initiate at 0.5 mcg/kg/min (impaired hepatic function, critically ill)

Calculate Child-Pugh score for estimation of hepatic impairment (see page 2)

7. Adjustments

Argatroban dose adjustments

PTT	□ Normal	□ Impaired	Repeat PTT
Less Than 35	Increase by 0.5 mcg/kg/min	Increase by 0.2 mcg/kg/min	4 hours
35-49	Increase by 0.25 mcg/kg/min	Increase by 0.1 mcg/kg/min	4 hours
50-70	No change	No change	Q 6 hours, when in goal range x 2 then Q 12 hours
71-90	Decrease by 0.25 mcg/kg/min	Decrease by 0.1 mcg/kg/min	4 hours
91-120	Decrease by 0.5 mcg/kg/min	Decrease by 0.1 mcg/kg/min	4 hours
More Than 120	Stop drip, repeat PTT STAT Contact MD	Stop drip, repeat PTT STAT Contact MD	6 hours, restart at ½ previous rate when PTT < 70

7) Contact physician for warfarin orders
8) When argatroban is discontinued, discontinue CBC and PTT

_____ _____
Physician's Signature Date/Time

_____ _____
Pharmacist/Nurse's Signature Date/Time

Reviewed: 08/14

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Pre-test probability score for HIT (the 4 T's)

	2	1	0
Thrombocytopenia	>50% Platelet fall to nadir ≥20	30–50% Platelet fall, or nadir 10–19	<30% Platelet fall, or nadir <10
Timing of onset of platelet fall (or other sequelae of HIT)	Days 5–10, or ≤day 1 with recent heparin (past 30 days)	>Day 10 or timing unclear; or <day 1 with recent heparin (past 31–100 days)	<Day 4 (no recent heparin)
Thrombosis or other sequelae	Proven new thrombosis; skin necrosis; or acute systemic reaction after intravenous UFH bolus	Progressive or recurrent thrombosis; erythematous skin lesions; suspected thrombosis (not proven)	None
Other cause(s) of platelet fall	None evident	Possible	Definite
Pretest probability score: 6–8 indicates high; 4–5, intermediate; and 0–3, low.			
*First day of immunizing heparin exposure considered day 0.			

Child-Pugh Score for estimation of hepatic function

Measure	**1 point**	**2 points**	**3 points**
Bilirubin	< 2 mg/dL	2-3 mg/dL	> 3 mg/dL
Albumin	> 3.5 gm/dL	3.5-2.8 gm/dL	< 2.8 gm/dL
INR	< 1.7	1.7-2.3	>2.3
Ascites	absent	mild to moderate	severe/refractory
Encephalopathy	absent	mild	severe
For patients with Child's Pugh Score >/= 7, consider hepatic adjustment dosing for argatroban			

Initiating warfarin therapy in patients on argatroban (LexiComp)

Conversion to oral anticoagulant: Because there may be a combined effect on the INR when argatroban is combined with warfarin, loading doses of warfarin should not be used. Warfarin therapy should be started at the expected daily dose.

Patients receiving ≤2 mcg/kg/minute of argatroban: Argatroban therapy can be stopped when the INR is >4 on combined warfarin and argatroban therapy; repeat INR measurement in 4 to 6 hours; if INR is below therapeutic level, argatroban therapy may be restarted. Repeat procedure daily until desired INR on warfarin alone is obtained.

Patients receiving >2 mcg/kg/minute of argatroban: In order to predict the INR on warfarin alone, reduce dose of argatroban to 2 mcg/kg/minute; measure INR for argatroban and warfarin 4 to 6 hours after dose reduction; argatroban therapy can be stopped when the INR on warfarin and argatroban combined therapy is >4. Repeat INR measurement in 4 to 6 hours; if INR is below therapeutic level, argatroban therapy may be restarted. Repeat procedure daily until desired INR on warfarin alone is obtained.

Note: The American College of Chest Physicians suggests monitoring chromogenic factor X assay when transitioning from argatroban to warfarin (Garcia, 2012) or overlapping administration of warfarin for a minimum of 5 days until INR is within target range; recheck INR after anticoagulant effect of argatroban has dissipated (Guyatt, 2012). Factor X levels <45% have been associated with INR values >2 after the effects of argatroban have been eliminated (Arpino, 2005).

Reviewed: 01/16

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