Worcestershire Acute Hospitals NHS Trust

Guideline for the use of Argatroban in Critical Care

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Key Amendments

Date	Amendment	Approved by
28th January 2021	New document approved	Medicines Safety Committee
24th January 2024	Document reviewed and re-published without changes	ICM Forum
31st January 2024	Correction to date for 'New document approved' in this table	Clinical Effectiveness

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Introduction

Argatroban is a direct thrombin inhibitor indicated for anticoagulation in patients with heparin induced thrombocytopenia type II who require parenteral antithrombotic treatment. Argatroban therapy is monitored and adjusted according the APTT ratio.

Diagnosis should be confirmed by the HIPAA (heparin induced platelet aggregation assay) or equivalent test but confirmation must not delay the start of treatment.

Details of Guideline

Infusion Fluid: 250ml of sodium chloride 0.9% or glucose 5%.
Mix thoroughly for 1 minute by repeatedly inverting bag. (NB may show initial haziness but then clear)

Monitoring: Therapy is monitored using the activated partial thromboplastin time (aPTT).

The target range for steady-state aPTT ratio is 1.5-3.0

aPTT should be checked two hours after the start of the infusion to confirm that the aPTT is within the desired therapeutic range. Thereafter, the aPTT should be monitored and infusion rate adjusted as detailed below.

Dosage and Administration: (after advice from haematology)
Discontinue heparin treatment before commencement and obtain a baseline aPTT

- Initial dose is 2mcg/kg/min *unless* patient is critically ill or has moderate liver impairment (Child-Pugh Class B) or cardiac surgery when the initial dose is 0.5mcg/kg/min
- Dose in patients undergoing renal replacement therapies = as per normal renal function

Dilute each 2.5ml vial in 250mls infusion fluid to a final concentration of 1mg/ml

Body weight (kg)	**Initial Infusion rate (ml/hr)**	
	2mcg/kg/min	0.5mcg/kg/min (Critically ill/hepatic impairment)
50	6	1.5
60	7	1.8
70	8	2.1
80	10	2.4
90	11	2.7
100	12	3.0
110	13	3.3
120	14	3.6

Subsequent dose modifications

	Standard dosing schedule Initial infusion rate 2mcg/kg/min		Critically ill/hepatically impaired patients initial rate 0.5mcg/kg/min	
aPTT	Infusion rate change	Next aPTT	Infusion rate change	Next aPTT
<1.5 times baseline	Increase by 0.5mcg/kg/min	2 hours	Increase by 0.1mcg/kg/min	4 hours
1.5-3 times baseline	No change	2 hours. after 2 consecutive aPTTs within target range check at least once per day	No change	4 hours. after 2 consecutive aPTTs within target range check at least once per day
>3.0 times baseline or > 100s	Stop infusion until aPTT is 1.5-3.0 times baseline. Restart infusion at half previous rate	2 hours	Stop infusion until aPTT is 1.5-3.0 times baseline. Restart infusion at half previous rate	4 hours

Maximum recommended dose = 10mcg/kg/min.

Maximum duration of treatment is 14 days although there is limited data to support use for longer periods

This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out?

Who will monitor compliance with the guideline?

Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
Argatroban used only when anticoagulation is required in patients with heparin induced thrombocytopenia	Regular review	On daily WR	Consultant anaesthetists ICU Pharmacists	ICU forum	Annually.

References

- The British Medical Association and The Royal Pharmaceutical Society of Great Britain. British National Formulary, No. 76: March 2019. The Bath Press, Bath.
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Contribution List

This key document has been circulated to the following individuals for consultation;

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