

A prolonged stay: the implications of lupus anticoagulant positive antiphospholipid syndrome on heparin infusion monitoring

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Objective

To highlight monitoring considerations when managing heparin infusions in a patient with lupus anticoagulant positive antiphospholipid syndrome (APS).

Clinical Features

A 37-year-old gentleman admitted for a parathyroidectomy and warfarinised for a mechanical valve, required therapeutic heparin bridging pre- and post-operatively. Past medical history included end stage kidney disease receiving haemodialysis, failed kidney transplant, lupus, triple positive antiphospholipid syndrome (lupus anticoagulant positive) and hypertension

A continuous heparin infusion per the Queensland Statewide protocol (i.e. using active partial thromboplastin time (APTT)) was commenced yet over many days the APTT fluctuated widely and was often supratherapeutic

Literature review

Clinical practice in management of APS is highly variable as this is a rare disorder with new and emerging research. There is a well-recognised high thrombosis risk in the presence of antiphospholipid auto-antibodies (e.g. lupus anticoagulant, anticardiolipin or antbeta2 glycoprotein I).

In the presence of lupus anticoagulant, APS patients have prolonged thrombin time and aPTT due to the antibodies ability to interfere with phospholipid-dependent coagulation reactions(1). In patients who require heparin monitoring antifactor Xa levels, determine an individualised therapeutic aPTT range, targeting an aPTT goal of two times the baseline aPTT or using an aPTT reagent insensitive to lupus anticoagulant.

Pharmacist Intervention, Case Progress, Outcomes

Case Progress

The patient's recovery post parathyroidectomy was complicated by hypotension and difficult to control aPTT resulting in delays in recommencing warfarin which was a main barrier to discharge planning.

Date	aPTT
14/7/21	104
	47
	>200
	198
	92
15/7/21	45
	175
	78
	83
16/7/21	41
	61
17/7/21	72
	76
	46
	120
	72

Pharmacist Intervention

Background:

SLE with APLS - dx over 20yr ago. currently quiescent
HTN
Mechanical MVR - placed 2011 for MRSA IE. - warfarinised.
echo nov 2018: normal LV size and function with EF 55-60%.
Iron def anaemia
Prev right femoral pseudoaneurysm 2011.

Pharmacy flagged concern as the patient was constantly outside the APTT range and post-operative concern about heightened thromboembolic risk (before knowing implication of presence of antiphospholipid auto-antibodies).

Pharmacy requested the team consult with haematology to manage heparin infusion. Haematology then advised that anti-Xa levels are a more reliable indicator of anticoagulation efficacy in patients with lupus anticoagulant positive APS. The recommended anti-Xa level is 0.3-0.7. If anti-Xa level is 0.15-0.29 increase heparin infusion by 2units/kg/hr, if 0.71-0.85 reduce by 1unit/kg/hr.

Discussion

Lessons learnt include awareness that all patients with APS have a heightened risk of thromboembolic events. It is also important to note that not all lupus patients will have APS, nor will they all acquire autoantibodies, therefore careful review of past medical conditions should be a cornerstone of clinical review.

References

1. Cohen, H, Efthymiou, M, Devreese, KML. Monitoring of anticoagulation in thrombotic antiphospholipid syndrome. J Thromb Haemost. 2021; 19: 892–908. <https://doi.org/10.1111/jth.15217>

Date	anti-XA
18/7/21	0.43
	<0.04
	0.06
	0.17
19/7/21	0.25
	0.37
	0.36
20/7/21	0.36
	0.43
	0.56
21/7/21	0.72
	0.43
	0.4
	0.38
	0.35
22/7/21	0.7

As shown on the Heparin Infusion order form, once the anti-Xa levels were used, the heparin infusion rate remained relatively stable and allowed for the warfarin to be restarted.

Contact Us

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