

2022 ACT - Heparin

Permission to print:	Yes
Category	Drug / Medication
Incident type	Good Catch Near Miss
Duration of incident:	minutes
Description:	<p>Elective CPB case - paediatric bypass set up including standard blood prime for our unit. Our Prime contained 800 iu of Heparin. The surgeon asked the anaesthetist to give heparin and he did so - 300 iu/kg bolus. The patient's baseline had been 175 s on the low range cuvette. A post heparin ACT was running prior to aortic cannulation (Haemochron signature elite) which stopped at 117 s on the high range cuvette. We repeated the ACT on the original machine as well as our spare machine - the result came back at 129 s on one and 130 s on the other. Surgeon was aware and paused while we discussed. I determined that the anaesthetist had used a different batch [of heparin] to what perfusion was using and suggested that we may need to give another bolus using a different batch. We had noticed a few lower than expected ACTs on bypass in the week leading up to this incident (same batch as mentioned in this report) but had not been able to determine if it was heparin resistance/patient dependent or the heparin batch as most cases are exposed to different batches between the anaesthetist and the perfusionist depending on what stock is in our trolley. After changing the batch we repeated an ACT which came back at greater than 1005 seconds - and bypass commenced soon after with no further concerns. The batch in question was : Heparin injection 5000 IU in 5ml (B) B951 EXP Jan 24 DOM: FEB22. These were removed from trolley and meds shelf, a hospital incident form filled in, and an email to relevant staff sent. The manufacturer Pfizer was informed and asked to carry out whatever checks that were required from a supplier point of view. Still awaiting an outcome. No further incidents noted with alternate batch numbers used in multiple cases since this case.</p>
GOOD CATCH - what went well	Following protocol (ACT must be done post heparin for every case prior to cannulation or bypass. Also good communication between team.
What could we do better	there had been issues earlier than the above case but had been more difficult to determine. Anti-Xa tests could have been sent but time constraints for results make this difficult for CPB.
Preventive actions	awareness that heparin can vary across batch numbers - always follow protocols and maintain good communication - don't assume it's 'heparin resistance' TGA [Austrian Regulatory Agency https://www.tga.gov.au/] advised.
Type of incident:	Management
Hospital incident filed:	Yes
Ext Authority Advised	Yes
Discussed with team:	Yes
Rule issue	No
Skill issue	No
Knowledge issue	No
Protocol issue	No
Patient outcome variance	Nil
Commentary	This is a rarely reported issue although heparin potency has been periodically variable in the past and could easily have been misconstrued – a good catch and a reminder to bear in mind. PIRS Ed