2021 Coagulation

Permission to print:	Yes
Category	Coagulation
Incident type	Good Catch Near Miss
Duration of incident:	minutes
Description:	Case : Patient with AS admitted for AVR. No major comorbidities Set up and prime : Inspire 6 - Livanova, standard set up, Plasmalyte prime, Cephazolin 1g and Heparin 10,000 IU added Case: standard central cannulation. Went on Bypass with ACT >900sec, ACT >700sec at all times during Bypass, Buckberg Cardioplegia given antegrade and retrograde, maintenance doses administered every 20 minutes. Cooled to 32C. Rewarmed and came off Bypass fine. Bypass ran as usual, no issues. TEG was normal. Normal CPB and XC times. Incident : shortly after coming off Bypass, the patient was hypertensive. A minute or two later, became hypotensive with a systolic pressure of 40 mmHg. With the venous and arterial lines clamped to the patient, we directed 600 mls of pump blood to a transfer bag (Livanova) via the drug ramp. This was given to the Anaesthetist. A second bag was connected to the drug ramp immediately after the first one, and 1l of pump blood was collected. This second bag was given to the Anaesthetist too. The pump was kept circulating, Protamine was started and the suckers were turned off. After decannulation of the arterial line, the remaining pump blood was directed to the cell salver. We (Perfusionists) left the OR after decannulation as the patient was stable. We were called back around 30 minutes later by the Anaesthetist, who informed us that as he was starting to transfuse the second blood bag (1l), he noticed that it was clotting. The pump blood bag was attached to a giving set , but no blood had reached the patient. The fluid chamber in the giving set had some small clots. The bag was inspected and had a substantial amount of fibrin strands and clots. The reservoir and oxygenator were also inspected, but no signs of clotting were found.There was no sign of clot in the CPB circuit when the circuit was removed from the HLM.
GOOD CATCH - what went well	The Anaesthetist spotted that the bag of pump blood was clotting before it reached the patient.
What could we do better	We cannot identify at what point the blood clotted. While protamine contamination is possible, we could have measured a heparinase ACT on the bagged blood to to confirm an absence of heparin.
Preventive actions	Incident shared with perfusionist and anaesthetic colleagues. Routine use of a 40u filter for refinfusion of pump blood is being considered.
Hospital incident filed:	No
Ext Authority Advised	No
Rule issue	No
Skill issue	No
Discussed with team:	Yes
Patient outcome varianc	Nil