2021 air in circuit

Permission to print:	Yes
Category	Air in circuit
Incident type	Harmful incident
Duration of incident:	seconds
Description:	Elective bypass using a Sorin S5 and FX05 oxygenator with integrated filter - uneventful priming (clear prime). On CPB 14:10 - was a 1/4" arterial line - using the 1/4" small bubble setting as per normal practice. AT 14:16 as I was just beginning to 'run the cardioplegia up to the table' when the bubble alarm went off and stopped the pump. I immediately clamped arterial and venous - used the light to check for any sign of air - oxygenator and tubing all primed no air seen. There was plenty of volume in venous reservoir at time bubble alarm activated. Notified the surgeon by which time bubble alarm was manually cleared and recommenced bypass at 14:17. This is the first time this has occurred so was pretty scary and took a few seconds to comprehend what was happening. The blood line to the cardioplegia pump is wyed from the arterial line approx.15cm from the arterial outlet port. On reflection it is possible there could have been a microbubble at that junction at time I turned the CP pump on to run cardioplegia up to table.
GOOD CATCH - what went well	Unsure of the reason for alarm activating as no sign of air, and priming was standard, deairing was as per normal practice and plenty of volume in reservoir and 6 minutes into a stable bypass run. We had noted some bubble alarm issues at the very end of cases during the bagging off of blood (after arterial cannula is out) potentially related to change in viscosity as we flush the Plasma-Lyte through (keeping system deaired/primed until chest closed) the LivaNova engineer suggested a 'data dump' to free up memory space on system as possible solution to reduce errors which we have done - unsure if this has helped.
What could we do better	nothing - still unsure why alarm activated. Have never in over 20 years practice had the bubble alarm activate during stable bypass run.
Preventive actions	quickly checked system - no sign of any air - manually cleared the bubble alarm on the S5 display without issue on the first attempt and bypass resumed - off bypass for 30 seconds.
Hospital incident filed:	No
Ext Authority Advised	No
Discussed with team:	Yes
Commentary	This report of an arterial line bubble sensor alarm activation comes on the back of a report of an electronic bubble sensor fault that inappropriately stopped the arterial pump and could not be overridden. In this report that arterial bubble sensor activated, appropriately stopping the pump allowing verification of no visible air with subsequent immediate resumption of CPB. It is of note that in this era of integrated arterial filters there was in this case no downstream protection from detection on an embolus (as with a separate filter distal to a bubble sensor) and the effectiveness of the pump stop servoregulation is critical. This is a Good Catch report. While it may appear innocuous to some and, as it was immediately “fixed” dismissed as unimportant (the Fix and Forget phenomenon), this was an unnerving experience for an experienced perfusionist and potentially a critical incident. PIRS2 Ed