

Letters to the Editor

Massive Air Embolism in a Fontan Patient

To the Editor,

A cold chill went down my spine as I read the case report of Matte et al., Massive Air Embolism in a Fontan Patient, in the *Journal of ExtraCorporeal Technology* (June 2011, 43(2):79–83). You see an identical event occurred at our institution months previously during the initiation of cardiopulmonary bypass (CPB) on an adult elective coronary artery bypass graft (CABG) procedure. We use the same manufacturers' venous reservoir and, similarly, the yellow venting cap was inadvertently replaced with a blue cap effectively sealing the reservoir. Once the patient was heparinized the pump suction turned on and the reservoir pressurized leading to air transmission up the line when the venous clamp was removed during initiation. The perfusionist quickly identified the problem and immediately clamped the venous line (clamp was open < 1 second). The reservoir was vented. After a short explanation to the surgeon, normal initiation of CPB was achieved. Fortunately for us, only a small amount of air reached the intact right atrium and removal during initiation was confirmed by ultrasound.

The entire event, however, was very unsettling to the entire team. The perfusionist was an experienced, meticulous, and caring professional. The pre-CPB checklist was performed, (not once, but also by a second perfusionist), with attention and due diligence, yet a potentially catastrophic complication occurred. We as a team learned a lot from this experience. For example, we use pressure relief valves on every case (not just vacuum-assisted venous drainage cases); we updated our checklist to capture an unvented reservoir (the pre-CPB checklist was previously unchanged over the years despite several iterations of circuit designs including transition from an oxygenator unit

which could not be sealed to a sealable reservoir); and we developed a team plan for an event like this.

Matte et al. teaches us all a bigger lesson, the value of communicating a perfusion incident. By courageously publishing this near catastrophe, perhaps similar occurrences can be avoided. For whatever reason, it is not yet in our culture to share incidents, mistakes, and errors. Many of us do what we did and fix the problem internally, but otherwise keep it to ourselves. We do not like to talk about the bad things that may happen and consequently they rarely leave the confines of our operating rooms. We should all realize that if it can happen once - it can happen again. Our bad experiences can help prevent others from occurring and I now wonder what if – what if we had reported this ... perhaps it would have given the team at Children's Hospital of Boston the information needed to have steered clear of this.

I look forward to the day when I, as a person, and we, as a profession, have moved our safety culture to the place where we feel a sense of duty to “pull back the veil” and openly report our incidents, errors, and mistakes. I think this case report illustrates that we need a mechanism (like the New Zealand PIRS - Perfusion Incident Reporting System) that will allow rapid, anonymous and accessible information to be reported across our perfusion community. I understand that within American Society of ExtraCorporeal Technology's strategic plan is the goal of developing such a means of reporting and disseminating incidents. I would heartily endorse such an initiative.

Matte et al. should be commended for both effectively and successfully managing this event, but also for not “sweeping this incident under the table”.

Anonymous