SAFETY ALERT

OCTOBER 7, 2022

AIR EMBOLISM DURING CARDIAC ABLATION

During a cardiac ablation procedure, the catheter irrigation fluid bag emptied and was replaced by staff. While priming the tubing, air was noted in the tube, and the catheter was immediately removed from the patient. The patient experienced a decrease of heart rate and blood pressure requiring a code response.

Radiofrequency cardiac ablation requires the use of heparinized irrigation fluid to cool and anticoagulate the ablation site. If the procedure requires more fluid than originally hung, it requires the bag to be replaced. This introduces an opportunity for air to enter the irrigation tubing. Air emboli can then be infused into the patient causing cardiac arrhythmia, myocardial infarction, respiratory symptoms and/or neurologic symptoms, and, potentially, total cardiovascular collapse.

Solutions

- During cardiac ablation procedures, air should be removed from any bags and the pump (or any other pressurized delivery device) tubing primed before being connected to a patient.
- Do not bypass alarms that detect air in the pump or tubing systems.
- Do not prime the irrigation line without first disconnecting the tubing set from the patient, even if a stopcock is in use.
- Review the manufacturer's instructions for how to change fluid bags to ensure safe operations.
- Be aware of potential access points for air to enter the system and mitigate the risk.

Patient Safety Authority

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