Air embolism caused by blower mister

To the Editor:

We congratulate Nollert and colleagues1 for their courage in publishing the adverse event experienced with a blower mister while performing a central anastomosis. Especially in off-pump coronary surgery, blower misters are most frequently used for bleeding control while performing the distal anastomoses. 2

Gaseous emboli caused by liberal use of the blower mister might additionally result in air locks within coronary vessels. This has been reported verbally, but published evidence is missing. Another complication was published: during performance of an anastomosis in a minimally invasive direct coronary artery bypass procedure, the ventricle was injured, and air embolism was detected with the echocardiography in the heart. 3

Air locks in the coronary circulation can lead to ischemia, decreased myocardial contractility, and possibly life-threatening cardiac arrhythmia. 4 The coronary circulation remains the most difficult compartment from which to remove air bubbles. For this reason and furthermore because of the possibility of endothelial damage, we recommend caution in the use of the blower mister.

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References

Reply to the Editor:

We appreciate the comments by Dr Tutarel to our article on a case of quadricuspid aortic valve stenosis recently published in the Journal. 3 He reminds us of the importance of other intracardiac anomalies that are frequently associated with this malformation and that must be recognized when planning an operation to avoid potentially serious complications. We fully agree that among these anomalies displacement of the coronary ostia might play an important role because in some instances it might require modification of the standard surgical technique of prosthetic valve insertion, particularly when a stentless valve is chosen as aortic valve substitute. This point was stressed in a previous publication on the same subject by our group 4 when reporting on a patient with aortic insufficiency caused by a quadricuspid valve, in whom, at operation, the right coronary ostium appeared displaced downward, being very close to the commissure between the right and the accessory cusps. In the present case 3 no anomalies of the coronary arteries were found, and because of severe calcification of the ascending aorta, it was decided to simultaneously replace the aortic valve and root with a cryopreserved homograft. We believe that with such technique, which requires adequate mobilization of the coronary buttons, displacement of a coronary ostium, even if present, would not have been a problem.

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References