Reply to Tavlasoglu et al.

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We are very pleased with the interest shown in our paper and the recognition of this common clinical problem [1]. The authors provided an in-depth validation and analyses of some of the existing makeshift methods and related suction pressures; however, we did not aim to collect this sort of data in our clinical study. The purpose of our study was to determine the incidence of chest tube clogging and the role of bedside evaluation of potential issues with chest tubes.

The data in our first prospective study demonstrated the incidence of chest tube clogging to be 36% [2]. We noted that the internal end of the chest tube (portion inside the body) was occluded in 86% of those patients even when the external portion appeared clear and that the degree of clogging cannot be always appreciated by the nurses and care providers in the intensive care units prior to removal. So it is not uncommon for caregivers to think that they have cleared the tube with makeshift bedside techniques, when in fact, the tube is still partially or completely occluded. Thus, possible solutions to address this must be optimized to maintain the chest tube lumen clear for the whole length of the tube, provide controlled clot removal and/or prevent clogging, especially at the ‘functional’ portion of the catheters where the side- and end-holes collect the shed blood and/or fluids from within the chest.

It is also important to consider that there is no consensus regarding the best practice for chest tube management and maintenance of patency [3, 4]. Strategies for establishing patency include but are not limited to makeshift methods such as milking, tapping, fanfolding several layers of tubing and squeezing, hand-over-hand and/or hand-held, or roller stripping manipulations, which all can be effective in selected clinical situations. Tavlasoglu et al. add to the options with their well-described ‘fanfolding modification’, which addresses some of the concerns of the other makeshift techniques. However, all of them generate uncontrolled changes in intrathoracic pressure and may cause bidirectional dislodgement of clots [5]. As cardiac surgery patients are becoming generally more complicated and bleeding represents a growing issue with the use of powerful anti-platelet agents, the problem of clogging may grow. Further efforts to understand how to prevent this are needed. Thus, it is important to recognize that clogged and dysfunctional chest tubes represent a real clinical issue.

REFERENCES