Commentary: The unclosable chest—When going negative is positive and can bring closure: Negative-pressure wound therapy

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In this issue of the Journal, Pettersson and colleagues\(^1\) retrospectively review their sizeable (452 patients) institutional experience during 15 years with 2 different strategies for open-chest management after cardiotomy in patients with high-risk preoperative profiles, both for hemodynamic instability and for bleeding. Open-chest management was needed in fewer than 1% of the patients operated on during this time frame. Standard closure barrier techniques were compared with negative-pressure wound therapy (NPWT). This is an observational study spanning 1.5 decades, so confounders exist; however, analysis with propensity-score matching yields actionable conclusions. Although it may seem counterintuitive to increase suction on a bleeding open chest with fresh vascular anastomoses, NPWT became the treatment of choice during this time frame, with less bleeding and improved 6-month survival; there was also a trend toward less infectious complications.

Key nuances of this management nicely included by Pettersson and colleagues\(^1\) are how to position and protect structures, how to use a lower pressure setting (−25 to −75 mm Hg), and detailed descriptors for emergency intensive care unit chest reexploration, including their emergency response setup. A trigger for reexploration also included when negative pressure was no longer able to keep the sponge vacuum compressed. Images are instructive; the reusable temporary sternal separator appears superbly designed, with safety and ease of placement.

This is a highly useful and practical reference for the dreaded need to keep the chest open, usually after a longer, complex procedure. Cardiothoracic surgeons are encouraged to familiarize themselves with this option and the included instructive images before the (frequently late nocturnal) need.

Pettersson and colleagues\(^1\) are to be commended for analyzing outcomes and strategies demonstrating care improvement in the patient with a postcardiotomy open chest and for sharing management details evolved in this learning curve at their quaternary referral center.

Reference