Management of sternal complications: Adding to the armamentarium

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First, I applaud the authors for a creative and definitive alternative to standard methods of dealing with certain types of sternal nonhealing after heart surgery through a median sternotomy. Sternal wound issues are classified on the basis of when they occur, the depth, the involvement of bone, and the presence or absence of infection. Sternal nonhealing can be an acute or a delayed presentation and can be indolent or fulminant.

Patient risk factors (diabetes, obesity, vascular disease), the choices of conduit (bilateral internal thoracic arteries), the nature of the procedure, the surgical technique, and vasoconstrictor use all affect sternal healing.

The concept that the surgeons offer in this article is a viable option for a certain type of sternal nonhealing. The patients must be stable and not taking vasoconstrictors. The wound must not be infected. There is a limit to the size of the defect that can be filled, and the scars can be an undesirable feature for women.

As with any sternal problem, the hardware must be removed, the wound must be completely debrided, and all infection must be gone. In addition, there is a steep learning curve for performing this microvascular, technically challenging procedure to ensure the best chance for success. The authors suggest 24 hours of mechanical ventilation postprocedure, which has its own set of undesirable complications in this group of patients. The authors also suggest a chest wall splint postprocedure, which can impair

adequate chest wall excursion to prevent pulmonary complications.

As with any new and novel procedure, I caution against labeling it as a “first-line” treatment for sternal wound complications. Vacuum-assisted closure therapy in conjunction with adequate debridement, plating, and muscle flaps when indicated are certainly still the standard of care for most sternal wounds requiring operative intervention. This procedure can be added to the decision tree for appropriate patients.

I appreciate the opportunity to review the article.

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Central Message

The article presents a novel method of dealing with a certain type of sternal nonhealing. It is one of several effective methods in experienced hands in the appropriate patient population.

See Article page 264.