Commentary: Hemostatic patch for coronary sinus rupture: An efficient solution for a complicated problem?

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This unique case study describes successful hemostatic patch repair of a traumatic coronary sinus rupture (CSR) in an 84-year-old woman who underwent quadruple coronary artery bypass graft. CSR occurred during placement of an autoinflating catheter retrograde coronary sinus catheter with a stiff stylet.¹ The authors applied a sealing hemostatic patch. Overall, the repair was resolved quickly, with approximately 3 minutes of application time, and resulted in successful treatment.

The authors have presented a valuable contribution to the literature regarding this rare complication. Although animal studies have established the feasibility and usefulness of a sealing hemostatic patch, this is the first instance of its use to repair a CSR in a human patient.

Techniques to repair CSR have previously been published; however, there is currently no standard treatment. Existing options include primary suture of the coronary sinus, which has the potential to stricture the coronary sinus, or pericardial patch repair, which can be technically challenging, especially after mitral surgery when excess lifting of the heart is cautioned.²⁻⁴

Some limitations of this publication are inherent to the nature of CSRs. Many publications on this topic, such as this article,¹ are case reports or small, retrospective studies. Great care must be taken in assuming this procedure should be the standard treatment, which is readily pointed out by the authors.

Second, a focal rupture of the coronary sinus can sometimes be controlled with manual pressure alone, particularly if the bleeding was noted before protamine administration. It can be difficult to discern whether bleeding resolution is due to a hemostatic patch or to manual pressure alone. However, the authors point out that almost all lesions resolve with use of a hemostatic sealing patch compared with only two-thirds without intervention. They believe that it is of great clinical benefit to repair these types of injuries using this simple, rapid technique. The hemostatic patch acts

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Central Message

Application of a hemostatic patch represents a novel technique for traumatic coronary sinus rupture, but further studies are needed before assuming this approach should be the standard of care.

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as a band that approximates the rupture margins and triggers hemostasis via collagen contact.

Finally, this is an off-label use of the patch. Although it is a creative solution, its application in this situation should be approached with caution.

This novel case study describes a successful surgical technique for the repair of traumatic CSR using a hemostatic patch. Perhaps the best solution is to not use a retrograde cardioplegia line at all, because its use is not without consequence.⁵ If a focal coronary sinus injury does occur, a hemostatic patch might be an efficient solution for a complicated problem. The authors provide a creative, off-label solution that worked in 1 patient. Further research and additional data are needed to determine whether this will ultimately become an easy solution to a difficult problem.

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