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Commentary: Recurrent aortic insufficiency after emergency surgery for acute type A aortic dissection with aortic root preservation: “A man’s got to know his limitations”

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Aortic insufficiency is a common clinical finding in patients who present with acute type A aortic dissection. The range of severity of this valvular abnormality is quite broad and depends on the underlying structural sequelae of the intimal tear associated with acute aortic dissection. Bojko and colleagues¹ present their findings from a reputable, single institution study and summarize that the “preoperative degree of aortic insufficiency is significantly associated with increasing probability of developing postoperative aortic insufficiency after root-preserving surgery for acute type A aortic dissection.”

The summary seems relatively obvious; however, the authors contend that such long-term outcomes have not been previously well documented following conservative root management with valve resuspension and root repair as the specific aortic clinical presentation. The decision to

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CENTRAL MESSAGE

Because of potential effects on operative technique or surgical clinical practice, study limitations should be mitigated even when justifiable.

repair rather than replace the root was based on a long-standing model at the University of Pennsylvania Medical Center. Specifically, if the location of the primary tear involves the left or right coronary sinus aortic segment, if the preoperative sinuses of Valsalva diameter is >45 mm, and if the patient presents in a noncritical clinical state, the surgical approach commonly includes aortic root replacement. Such patients were excluded from this study as well as those with Marfan syndrome or endocarditis.

The limitations of the study are significant. There were the usual single institution, retrospective observational analysis issues. Even more importantly, the authors were not able to document, nor adjust for, the number of dissected sinus segments, a factor that has been shown to be an important predictor of sinuses of Valsalva dilatation and/or aortic insufficiency after root-preserving surgery for type A aortic dissection.^{2,3} They were furthermore not able to differentiate among the different etiologies and mechanisms of aortic insufficiency⁴ in their series.

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Additionally, their echocardiography studies performed postoperatively were only 56% at 1 year, 26% at 5 years, and 7% at 10 years.

Despite the understandable and seemingly credible reasons for the stated limitations, readers are left with a question: How much do the limitations negatively influence the findings of this—or any—study? When limitations exclude important clinical information, interpreting the results is difficult. This is particularly true when studies suggest modifications to clinical interventions. In this particular case, the summary recommendations offered by Bojko and colleagues¹ are obvious: Carefully follow-up with patients, particularly using echocardiographic surveillance. On the other hand, is it not incumbent upon the authors to seek to minimize limitations? Despite Dirty

Harry Callahan's admonition that "A man's got to know his limitations,"⁵ they should still be mitigated.

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