

risk of oversewing the aortic valve with pump stoppage or thrombosis, that practice has generally been abandoned.

In the current study from Tanaka and colleagues,¹ we see the effects of even mild AI on long-term outcomes. The article is well written and incorporates propensity matching strategies to work toward a true evaluation of the influence of AI. What we see is that the AI can progress and has a significant influence on heart failure readmissions and functional status. Although there was no significant change in overall survival, the readmissions and heart failure management needs represent an effect on patients and the overall health system. This important observation emphasizes that seemingly minor details or changes can compound over time. Tracking the influence of the minor items and continuously reassessing our surgical approaches, mantras, and outcomes are what enable us to evolve our processes and improve outcomes for patients. Nevertheless, the best

approach to manage mild AI, how to balance risks of additional bypass time and cardiac arrest on surgical outcomes, and the role (if any) of transcatheter aortic valve replacement will likely be debated for years to come.

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Commentary: Two roads diverged in a yellow wood...

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As winter fades away and spring begins, we look forward to fresh flowers, time outdoors, and the time-honored tradition of high school yearbooks. Coupled with awkward photos of high schoolers, playful, serious, and with deliberate body language, are the immortal senior quotes. For some it was a witty quip, and for others just a joke, but for many it was an attempt to be serious and show one's pensive side.

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CENTRAL MESSAGE

The management of mild aortic insufficiency at the time of LVAD implantation remains controversial. A randomized trial will be required to determine the best treatment strategy.

Among the common thoughtful quotes is from Robert Frost's "The Road Not Taken": "Two roads diverged in a wood, and I—I took the one less traveled by, And that has made all the difference."¹ Frost notably also describes how both paths appear similar and laments that in choosing one, he will likely not travel the other.

Tanaka and colleagues² describe their institutional experience of the progression of mild aortic insufficiency (AI) following placement of a continuous flow left ventricular assist device (LVAD).² They describe that more than 40% of patients with mild AI will progress to moderate/severe AI and have increased heart failure admissions, also noting that their survival does not differ from those patients with preoperative trace/no AI. This observation is important to consider because a recent study by Truby and colleagues³ revealed that nearly 30% of all patients undergoing LVAD implantation had mild AI at the time of surgery. It is well accepted that moderate/severe AI requires treatment at time of LVAD implantation, but there is no current consensus about the necessity of aortic valve intervention. Given the potential complexity of a second operation for the aortic valve, these data provide an important perspective regarding the fate of mild AI. Additionally, as the authors point out, with recent changes to the heart allocation system there is likely a longer period of LVAD management before transplantation.

Which road is less traveled? Arguments exist for addressing AI (eg, reduced future heart failure hospitalizations and no need for future intervention) and against addressing AI (eg, need for crossclamp, possible effects on the right heart, increased complexity of the operation, and potential for transcatheter aortic valve replacement). As the complication profile and durability of LVADs continue to improve

along with changes to the heart allocation system, their use will continue to grow.⁴ As such, we will continue to encounter more patients with mild AI. We as a community need concrete data regarding how patients with mild AI fare with and without a concomitant aortic valve intervention.^{2,3,5} Transcatheter therapy improvements may influence the ease of later aortic valve intervention. Only a randomized controlled trial or large clinical registry will help answer this question. Until then, we are left to our best judgment, which based on current data equates to an educated guess, or more likely, style. “Though as for that the passing there, Had worn them really about the same.”

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