Letter by Houthuizen et al Regarding Article, “Clinical Impact of Persistent Left Bundle-Branch Block After Transcatheter Aortic Valve Implantation With CoreValve Revalving System”

To the Editor:

With interest, we read the article by Testa et al demonstrating that new-onset left bundle-branch block (LBBB) after transcatheter aortic valve implantation (TAVI) does not affect 1-year survival. Their findings seem to contrast with our observation that TAVI-induced LBBB increases mortality by 55%. Because TAVI is rapidly emerging, it is important to reason why studies of similar sample size result in opposite results. We can come up with 2 possible explanations.

In our study population, patients who were implanted a permanent pacemaker within 30 days after TAVI were excluded. This in contrast with the Italian registry, which only excluded patients (permanent pacemaker) within 48 hours after TAVI. With a permanent pacemaker implantation rate of 18%, it is conceivable that a considerable proportion of the LBBB group was protected against bradyarrhythmic death. Furthermore, logistic EuroSCORE in their patients was higher, indicating that other prognostic factors may have played a more dominant role in the patient’s outcome.

Moreover, the diagnosis of LBBB requires a critical electrocardiogram analysis, and criteria have become stricter recently. The study by Testa et al does not specify the criteria for LBBB, nor by whom the electrocardiogram was analyzed. Noteworthy, the mean QRS duration in the LBBB group was lower than in our study, and the lower Interquartile range value indicates that 25% of LBBB patients had QRS duration <130 ms, which is considered the lower limit for LBBB. Therefore, patients without true LBBB may have been included in the LBBB group. Conversely, we wonder whether some cases of LBBB may have been included in the control group. This idea arose because Testa et al report a frequency of new LBBB of 27%, whereas we found a frequency of 51% for the same valve.

Both studies are registry-based and may suffer from flaws in data completeness. For instance, we did not collect data on aortic regurgitation, which is known to affect outcome. In the Italian study, echocardiographic follow-up data are limited. This may explain the absence of a significant decrease in left ventricular ejection fraction in LBBB patients, which contrasts with others studies.

To conclude, the different results from the 2 retrospective studies indicate the need for a prospective, international study to evaluate the influence of TAVI-induced LBBB. After all, application of TAVI is rapidly increasing worldwide.

Disclosures

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