

Long-term mortality in patients with infective endocarditis who undergo aortic root replacement versus isolated aortic valve replacement

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Background: Infective endocarditis (IE) with involvement of the aortic root (root abscess or aortic prosthetic valve endocarditis (PVE)) is associated with high mortality and morbidity, and it often requires root replacement. IE-guidelines recommend surgery in patients with aortic root involvement (class B recommendation), but the surgical technique is challenging, and the perioperative risk is high. Long-term data are sparse for these high-risk patients and may help better select appropriate patients for surgery.

Purpose: We set out to investigate the short- and long-term mortality for patients with destructive aortic valve endocarditis who underwent aortic root replacement. For comparison, we included those who underwent isolated aortic valve replacement for IE (isolated AVR).

Methods: We included patients with first-time IE from 2000 to 2016 who underwent aortic valve surgery identified from The Eastern Danish Thoracic surgery database. Patient characteristics were identified by cross-linking Danish nationwide databases. Patients who underwent aortic root replacement were compared with those who underwent isolated AVR. Kaplan-Meier plots and multivariable Cox regression analyses were used to estimate and compare the associated 30-days and 10-year mortality risks between groups.

Results: We included 368 patients with aortic valve IE who underwent AVR surgery; 126 patients underwent aortic root replacement and 242 underwent isolated AVR. Median age for root replacement patients was 65.4 years (interquartile range [IQR] 56.2–73.0) compared with 62.1 years (IQR 52.3–71.6) for isolated AVR patients. In the root replacement group, 40.5% had prosthetic valve endocarditis (PVE), whereas 6.6% had PVE in the isolated AVR group. 30-day mortality was 12.7% (CI95: 7.6%-19.2%) in the root replacement group and 7.0% (CI95: 4.3%-10.7%) in the isolated AVR group (P=0.06). Estimated 10-year mortality was 54.4% (CI95: 40.3%-67.6%) in the root replacement group and 45.3% (CI95: 35.7%-54.5%) (P=0.07) after isolated AVR (figure 1). At up to 10 years follow-up, there was no significant difference in adjusted mortality between the groups, adjusted HR=1.34 (CI 95: 0.90–2.00).

Conclusion: Patients with IE who underwent aortic root replacement surgery more often had a prosthetic heart valve, were older, and were more often male. There was no significant difference in long-term mortality between the groups. Nonetheless, long-term mortality was high – 50% of patients died by 10 years, and our results underline the need for stringent patient selection.

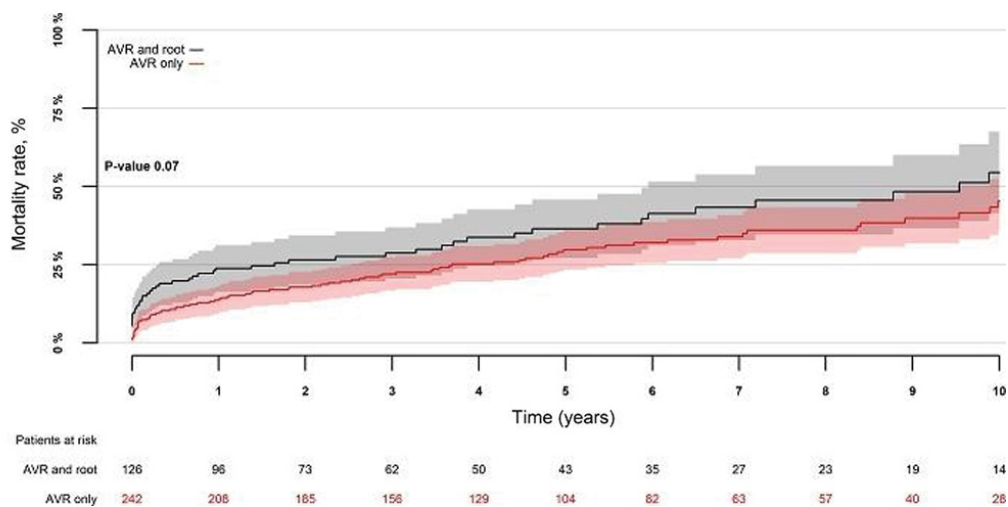


Figure 1

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