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Initial and Subsequent Procedural Outcomes in a Regional TAVI Programme

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Introduction: Transcatheter aortic valve implantation (TAVI) is an established treatment option for severe aortic stenosis, with contemporary guidelines emphasizing appropriate patient selection and multidisciplinary Heart Team decision-making[1]. The expansion of TAVI programmes requires structured procedural training, institutional expertise and continuous outcome monitoring. Previous studies have demonstrated a learning-curve effect, with increasing procedural experience associated with improved safety and reduced vascular complications[2,3]. The aim of this study was to evaluate changes in procedural characteristics and early clinical outcomes during the development of a regional TAVI programme.

Patients and Methods: We retrospectively analyzed 51 consecutive patients undergoing TAVI between February 2025 and October 2026 using a self-expanding valve platform. Patients were divided into an initial cohort of 20 and a subsequent cohort of 31 patients. Baseline characteristics, vascular access, procedural complications, permanent pacemaker implantation, in-hospital mortality, and length of hospital stay were compared.

Results: Mean age was 79.3 years in the initial cohort and 80.2 years in the subsequent cohort. Right femoral access was used in 85.0% and 61.3% of procedures, respectively, while left femoral and subclavian access became more frequent in the later cohort. Vascular complications requiring surgical intervention occurred exclusively during the initial phase (3/20, 15.0%), with no such events among the subsequent 31 patients. Permanent pacemaker implantation was required in two patients in each cohort (10.0% vs. 6.5%). A composite of clinically relevant early procedural complications occurred in 5 patients (25.0%) in the initial cohort and 4 patients (12.9%) in the subsequent cohort. One in-hospital death occurred during the initial phase, with no deaths in the later cohort. Median postprocedural hospital stay was 3 and 4 days, respectively. No clinically significant paravalvular regurgitation was recorded.

Conclusion: The development of a regional TAVI programme was accompanied by a favorable trend in early procedural outcomes, particularly the absence of vascular complications requiring surgical intervention in the subsequent 31 patients. These findings suggest progressive refinement of procedural techniques and vascular access management, although larger cohorts are needed to confirm a learning-curve effect.

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