Exercise training improves exercise capacity and quality of life after transcatheter aortic valve implantation: A randomized pilot trial.

Transcatheter aortic valve implantation (TAVI) is increasingly applied for aortic stenosis in elderly patients with impaired mobility and reduced quality of life. These patients may particularly benefit from postinterventional exercise programs, but no randomized study has evaluated the safety and efficacy of exercise in this population. In a prospective pilot study, 30 patients after TAVI (mean age, 81±6 years, 44% female, 83±34 days postintervention) were randomly allocated 1:1 to a training group (TG) performing 8 weeks of supervised combined endurance and resistance exercise or to usual care. The formal primary efficacy end point was between-group difference in change in peak oxygen uptake assessed by cardiopulmonary exercise testing; secondary end points included muscular strength, 6-minute walk distance, and quality of life (Kansas City Cardiomyopathy Questionnaire and Medical Outcomes Study 12-Item Short-Form Health Survey questionnaires). Safety was assessed by documenting training-related adverse events, prosthesis, and renal function. Significant changes in favor of TG were observed for peak oxygen uptake (group difference, 3.7 mL/min per kg [95% CI, 1.1-6.3; P=.007]), muscular strength (bench press, 6 kg...
[95% CI, 3-10; P=.002]; rowing, 7 kg [95% CI, 3-11; P=.001]; pulldown, 9 kg [95% CI, 4-14; P=.001];
shoulder press, 5 kg [95% CI, 1-8; P=.008]; leg press, 17 kg [95% CI 6-28; P=.005]), components of
quality of life (Kansas City Cardiomyopathy Questionnaire physical limitation, 19.2 [95% CI, 4.1-34.2;
P=.015]; symptom burden, 12.3 [95% CI, 0.5-24.0; P=.041]; clinical summary, 12.4 [3.4-21.4;
P=.009]), but not for other questionnaire subscales and 6-minute walk distance (15 m [95% CI, -23 to
53; P=.428]). Three dropouts unrelated to exercise occurred (TG=2; usual care,=1); prosthesis and
renal function were not affected by the exercise intervention. In patients after TAVI, exercise training
appears safe and highly effective with respect to improvements in exercise capacity, muscular
strength, and quality of life.Clinicaltrials.govNCT01935297.