Results differ between transaortic and open surgical aortic valve replacement in women


Abstract

BACKGROUND:
Despite the well-known impact of female sex on outcome after surgical aortic valve replacement (sAVR), few studies investigated its role after transcatheter aortic valve replacement (TAVR).

METHODS:
After propensity-matching for age, baseline comorbidities, previous interventions, priority, frailty score, New York Heart Association class, left ventricular function and associated cardiac diseases, hospital mortality, and procedure-related morbidities of 388 women (194 TAVR versus 194 sAVR) of 5,231 patients enrolled in 70 centers participating in this prospective multicenter national registry were analyzed at a central management unit of the Italian National Institute of Health.

RESULTS:
Although hospital mortality was comparable (4.1% TAVR versus 3.1% sAVR; p = 0.177), women undergoing sAVR showed a higher rate of transfusion (63.9% versus 37.1% TAVR; p = 0.0001); higher number of transfusions per patient (3.6 ± 0.4 versus 2.3 ± 0.3 TAVR; p = 0.049); a higher incidence of low cardiac output state (5.7% versus 3.6% TAVR; p = 0.017) and acute renal failure (8.8% versus 4.1% TAVR; p = 0.01); and higher mean transprosthetic gradients (15.7 ± 12.6 mm Hg versus 11.9 ± 10.7 mm Hg TAVR; p = 0.004). In contrast, women undergoing TAVR experienced significant postprocedural aortic regurgitation (mild, 37.6% versus 7.7% sAVR; moderate-to-severe, 7.1% versus 1.5% sAVR; p = 0.0001) and a higher rate of stroke (7.7% versus 2.5% sAVR; p = 0.037), major vascular complications (9.3% versus 0.5% sAVR; p = 0.0001), pacemaker implantation (12.4% versus 6.2% sAVR; p = 0.004), need for emergent percutaneous coronary intervention (1.0% versus 0% sAVR; p = 0.007), and longer intermediate care unit length of stay (2.5 ± 4.4 days versus 1.4 ± 2.6 days sAVR; p = 0.008). Perioperative myocardial infarction and lengths of intensive care unit stay and hospitalization were comparable (not significant).

CONCLUSIONS:
Women undergoing sAVR and TAVR experienced different periprocedural morbidities. These data strongly suggest the need to strictly individualize the indications.