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Transcatheter aortic valve replacement with the lotus valve for severe, symptomatic aortic stenosis: St. Luke's Medical Center Global City Heart Institute experience

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Transcatheter Aortic Valve Replacement (TAVR) is a well-established therapeutic option for patients with inoperable severe, symptomatic aortic stenosis (AS). The self-expanding and balloon expandable systems have dominated, and large clinical trials have established their safety and efficacy. Despite good clinical outcomes, these valves exhibit technical limitation mainly paravalvular leak (PVL) and valve malposition associated with poor prognosis. Second generation valves have been developed and among them is the Lotus valve which is repositionable and fully retrievable and is designed to minimize PVL. The objective was to evaluate the safety and performance of the lotus valve system in symptomatic severe AS patients and to compare outcomes with those of corevalve treated patients at 30 days based on VARC-2 criteria. A total of 89 patients with symptomatic severe AS (77.3±8.08 years of age, 56% males with mean STS score of 10.4±11) underwent TAVR from February, 2012 to November, 2016. Seventeen patients underwent lotus TAVR and outcomes were compared with corevalve treated patients. Procedural device success showed no significant difference between the two cohorts. Successful single valve deployment and significantly less contrast loading ($p<0.000$) were seen with the lotus group. No significant difference in the early safety and clinical efficacy parameters at 30 days was seen in both groups. Echocardiography showed a significant decrease in the mean aortic gradient and increase in the aortic valve area for both groups. The lotus group has less degree of PVL ($p<0.004$) and lower pulmonary arterial systolic pressure (PASP) ($p<0.011$) as compared to the corevalve cohorts. In this matched comparison of patients with severe AS who underwent TAVR, no significant difference with regards to mortality, safety and clinical efficacy at 30 days between the two groups was seen. Significantly less PVL, greater improvement in the PASP and less contrast loading were seen in the lotus cohort. The clinical significance of these differences needs to be tested in a larger clinical trial with longer follow-up period.

Biography

Sheryll D Santos is a graduate of Doctor of Medicine at the University of the East Ramon Magsaysay Medical Center, Philippines. She had her Adult Cardiology Fellowship at St. Luke's Medical Center- Global City, Metro Manila, Philippines. She is currently undergoing Clinical Research Fellowship in Echocardiography in the same institution.

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