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REDUCING THE COST OF TAVR: AN EVALUATION OF THE IMPACT OF PERMANENT PACEMAKER RATE ON THE COST OF TRANSCATHETER AORTIC VALVE REPLACEMENT FROM THE HOSPITAL PERSPECTIVE

Poster Contributions

Hall C

Saturday, March 29, 2014, 10:00 a.m.-10:45 a.m.

Session Title: Valvular and Structural Heart Intervention

Abstract Category: 42. TCT@ACC-i2: Aortic Valve Disease

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Background: Though studies support the cost-effectiveness of TAVR from a societal perspective, the impact of costs on the viability of TAVR programs from the hospital perspective is not fully understood. In particular, new complete heart block has implications for TAVR programs due to the costs of permanent pacemaker (PPM) implantation, prolonged length of stay (LoS) and increased level of care.

Methods: To determine the impact of the rate of PPM implantation following TAVR on hospital costs under alternate discharge scenarios, we developed a decision analytic model using detailed cost data from a cohort of 79 patients and outcome data from published registries. At baseline, the rate of PPM was 15.2% and all other complications combined was 20%. LoS for both uncomplicated and PPM patients was 8 days with new PPM patients required an extra day of CCU level monitoring. The rate of PPM was varied from 5% to 30% under different discharge planning scenarios for uncomplicated and PPM patients (Base Case; Early: Day 3-4; and 3M: 25% Next-Day, rest Day3-4). When the PPM rate was > 10%, a minimum of two days of CCU monitoring was required for all patients. The incremental total cost of a PPM at baseline was \$7,757.

Results: With Base Case discharge planning, every 5% decrease in the rate of PPM resulted in a program average total cost savings of \$485/hospitalization. However, if adopting an Early discharge strategy, the rate of savings grew to \$632 and \$1059 with the 3M approach. Doubling the cost of PPM implantation increased the rate of savings per 5% decrease in the rate of PPM to \$813, \$960 and \$1,388, respectively. A lower pacemaker rate was also associated with greater cost savings when switching to one of the early discharge strategies from Base Case.

Conclusion: Lowering the PPM rate produced savings at the hospital level under base case discharge planning assumptions. As lower PPM rates may facilitate early discharge, still more savings are possible when very early discharge planning was assumed. These findings suggest that the rate of PPM following TAVR should be of greater interest to centers supporting appropriately targeted early discharge of TAVR patients than programs favoring a more conservative approach.