COST BENEFITS WITH ROBOTIC CARDIAC SURGERY IN COMPARISON TO STERNOTOMY

Feras Khaliel, Faisal Fallatah, zainab Alayed , Faisal Alshamdin, Adel Aly, Mohammed Alamri.

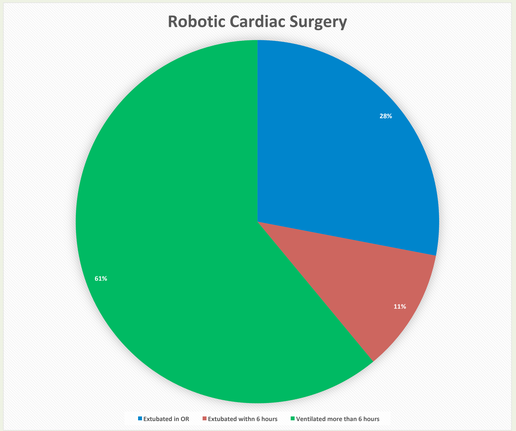
King Faisal Specialist Hospital & Research Center, Riyadh, Saudi Arabia.

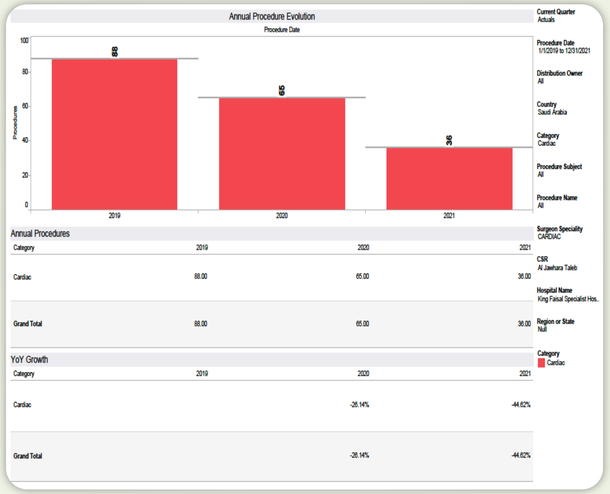
Introduction :

Robotic cardiac surgery has been established since 1997, and hasn't taken off significantly due to steep learning curve and limited budgets at health institute. Our study is to compare costs of matched procedure with conventional sternotomy (CS).

Methods:

Between Feb2019 and Feb 2021, over 150 patients underwent robotic cardiac surgery. A randomized study matching 48 patients (group1 n=24 Robotic MVR and Group2 n=24 CS MVR) were compared. Group3 n=12 Robotic OPCAB, group4 CS CABG) were also randomized and matched.





RESULTS:

EUROSCOREII group1 was 2.1% Vs. 1.1% in group2, and 1.4% group3 Vs. 1.46% in group4. Average length of stay (LOS) in group1 to group2 were 6.8 and 10.4days, respectively. While LOS in group3 to group4 were 4.9 and 8.5days, respectively. Average BMI were equal in all group 30kg/m2. Mechanical ventilation in group1,2,3, and 4 were 12.6, 15, 4.8 and 11 hours, respectively. Blood transfusion rate were 0.25Unit group1, Vs. 2Units in group2, while zero in group3 Vs. 2.6Units. Hospital costs in group1, 2, 3 and 4 were 3.6M, 5.1M, 1.98M, 2.2M, respectively. Cost difference in group 1 to group2 were 1.51M per 24 patients, and group3 to group4 were 190k per 12 patients, favoring the robotic cohort group1 & group3.

CONCLUSION:

Robotic Cardiac surgery has improved patient outcome, lowered blood product transfusion, mechanical ventilation time, length of stay by over 50%. Hence, lowering cost by 40% in comparison to their counterpart the CS.

