2-27-2023

CRT-700.53 Risk of Heart Block Development in Surgical Management of Congenital Heart Disease

Bilal Hussain

Vishal Dhulipala

Ali H. Jafry

Mir B. Basir

CONCLUSION Advanced TAVR implantation strategy and operator experience with higher target implantation significantly reduced the rate of PPI from >30% to <10% while incidence of new LBBB remained stable.

Table 1

Year	TAVR (n)	On PM	New LBBB	New RBBB	New PPI
2016-17	11	0 (0%)	3 (27%)	3 (27%)	4 (36.4%)
2018	24	2 (8.3%)	1 (4.2%)	1 (4.2%)	8 (36.4%)
2019	47	3 (6.4%)	9 (19.1%)	2 (4.3%)	8 (18.2%)
2020	71	5 (7.0%)	9 (12.7%)	2 (2.8%)	10 (15.2%)
2021	112	9 (8.0%)	15 (13.4%)	2 (1.8%)	17 (16.5%)
2022	109	8 (7.3%)	16 (14.7%)	0 (0%)	9 (8.9%)
Together	374	27 (7.2%)	53 (14.2%)	10 (2.7%)	56 (14.9%)

ASD/PFO OCCLUDERS

CRT-700.53

Risk of Heart Block Development in Surgical Management of Congenital Heart Disease

Bilal Hussain,[1] Vishal Dhulipala,[2] Ali Haider Jafry,[3] Mir Babar Basir[4]
[1]The Brooklyn Hospital Center, Brooklyn, NY; [2]Icahn School of Medicine at Mount Sinai, New York, NY; [3]Allegheny General Hospital, Pittsburgh, PA; [4]Henry Ford Hospital, Detroit, MI

BACKGROUND There is a paucity of data regarding the risk for heart block during surgical repair of congenital heart disease (CHD). We sought to identify the prevalence and prognosis of heart block in patient's requiring surgical intervention for CHD.

METHODS National Inpatient Sample 2016-2019 was used to conduct a retrospective analysis by identifying a cohort of patients admitted for surgical management for atrial septal defect repair/replacement (ASDR), ventricular septal defect repair/replacement (VSDR) and patent ductus arteriosus closure (PDAC) using respective ICD-10 codes. Primary outcome was the risk of developing heart blocks including atrioventricular and bundle branch/fascicular blocks which was assessed with multivariate logistic regression model.

RESULTS 7.6% patients with ASD underwent ASDR, 10.4% patients with VSD underwent VSDR and 8.8% patients with PDA underwent PDAC. Heart blocks were observed in 12% of ASD patients undergoing ASDR, 10% of VSD patients undergoing VSDR and 8.8% of PDA patients undergoing PDAC. Mean age was 38.9 years for patients undergoing ASDR developing heart blocks, 11.48 years for patients undergoing VSDR developing heart blocks and 10.3 months for patients undergoing PDAC developing heart blocks. On analysis of patients who developed heart blocks after undergoing surgery for CHD, we found that 51.5% were males, 48.4% were females, 57.8% were white, 12.7% were African-American and 17.6% were Hispanic. ASDR was associated with increased odds of developing heart blocks in patients with ASD (OR 3.89, CI 3.6-4.2, p<0.001) and VSDR was associated with increased odds of developing heart blocks in VSD patients (OR 9.31, CI 8-10.7, p<0.001). While, PDAC was associated with even higher odds of developing heart blocks in PDA patients (OR 12.75, CI 10.4-15.6, p<0.001). ASDR was associated with decreased mortality in ASD patients (OR 0.85, CI 0.74-0.98, p=0.036), VSDR had no significant association with mortality in VSD patients (OR 0.99, p=0.9) and PDAC was associated with minimally increased mortality (OR 1.16, CI 1.001-1.36, p=0.04).

CONCLUSION Heart blocks are prevalent among the patients undergoing surgical treatment for CHD. Surgical repair of CHD is strongly associated with the risk of developing heart blocks, highest risk being with PDAC followed by VSDR and ASDR.

LEFT ATRIAL APPENDAGE

CRT-700.28

Mid-Term Outcomes After Left Atrial Appendage Closure Performed With Computed Tomography Angiography Pre-Procedural Planning

Mohammad Atif Rana, Luis Augusto Palma Dallan, Sunghan Yoon, Nour Tashtish, Imran Rashid, Sanjay Rajagopalan, Mauricio Arruda, Steven James Filby
UH Harrington Heart and Vascular Institute, Cleveland, OH

BACKGROUND While studies have shown advantages of computed tomography angiography (CTA) over transesophageal echocardiography (TEE) in left atrial appendage closure (LAAC) pre-procedural planning, there has been no reported long-term data for this approach.

OBJECTIVES We sought to evaluate long term outcomes using CTA-based pre-procedural planning for LAAC using the WATCHMAN™ device.

METHODS A prospective analysis of 231 consecutive patients who underwent LAAC in a single, large academic hospital in the United States was conducted over a 5-year period. CTA-guided pre-procedural planning was performed in all. Procedural success, adverse events, length of procedure, number of devices used, and length of stay were evaluated. Rates of death, cerebralembolism, systemic embolism, major and minor bleeding were recorded. Adjusted predicted stroke and major bleeding rates were derived from CHA2DS2-Vasc and HAS-BLED scores respectively.

RESULTS From January 26, 2017 to November 23, 2021, 231 patients underwent LAAC with CTA pre-procedural planning by 2 operating physicians. The mean age of patients was 76.5±8.4. 59.7% of patients were male. Mean CHA2DS2VASc and HAS-BLED scores were 4.5±1.4 and 3.9±0.9, respectively. All procedures were performed with intracardiac echo. The procedural success rate was 99.1%. The CTA sizing strategy accurately predicted the implant size in 93.5% of patients. Mean number of devices used was 1.10±0.3. Peri-procedural complication rate was 2.2%. 6 patients were lost to follow up. Mean follow up was 608.94 days with a total of 377.04 patient years. Median follow up period of 368 days (interquartile range: 209 to 1067 days). There were 51 deaths from all causes (13.52 per 100 patient years), 10 cases of cerebral embolism (2.65 per 100 patient years), 2 cases of systemic embolism (0.53 per 100 patient years), 17 cases of major bleeding (4.50 per 100 patient years) and 31 cases of minor bleeding (8.2 per 100 patient years). All-cause mortality and CV event rates at 1, 2, and 3 years were 12.7%, 20.9% and 29.2%, and 2.1%, 6.6% and 10.5%, respectively.

CONCLUSIONS CTA based pre-procedural planning is accurate in predicting device size for LAAC and associated with excellent clinical outcomes at 5 years.

CRT-700.31

Effectiveness and Safety of Same-Day Discharge After Left Atrial Appendage Closure Using Moderate Conscious Sedation: One-Year Follow-Up Outcomes

Ibrahim Halil Inanc,[1] Deniz Mutlu,[2] Kostas Marmagkiolis,[3] Cezar Iliescu,[3] Ismail Ates,[4] Marc Feldman,[5] Mehmet Cilingiroglu[3]
[1]Kirikkale Yuksek Ihtisas Hospital, Kırıkkale, Turkey; [2]Cerrahpasa Faculty of Medicine, Istanbul, Turkey; [3]University of Texas in Houston, MD Anderson Cancer Center, Houston, TX; [4]Sisli Kolan International Hospital, Istanbul, Turkey; [5]UT Health San Antonio, San Antonio, TX

BACKGROUND Left atrial appendage occlusion (LAAO) using Watchman device, therapeutic alternative to chronic systemic oral anticoagulation, is mostly performed under general anesthesia (GA) and patients stay overnight post procedure. However, GA results an increase of the overall procedure complexity, time, cost and possible important and serious complications. Today, moderate conscious sedation (MCS) has been increasingly applied to avoid such complications. MCS provides the advantage of the patient being discharged on the same day. However, long-term outcomes after discharge are lacking. The study aimed to investigate the 1-year follow-up results of patients who were discharged on the same day after left atrial appendage closure under MCS.

METHODS This study included a total of 112 patients with PAF or chronic Afib had same day discharge following LAAO with MCS between August 2019 and May 2020. WATCHMAN (Boston Scientific, MN) LAA occluder devices were used during LAAO procedures. All patients were educated to be fully alert and oriented and had someone to take and stay with them at home for the next 24 hours and discharged home on the same day following their post procedural transthoracic echocardiogram (TTE) evaluations. The patients had next day TTE and follow-up at the cardiology clinic. Clinical and procedural outcomes were evaluated prospectively using medical records of these patients.

RESULTS This study included a total of 112 patients (female 45, mean age of 83.5 ± 8.5 years). The procedural success rate was 100%. Procedural duration, device implant time and fluoroscopic times were 45 ± 8.6, 14.5 ± 7.8 and 10.2 ± 1.2 min, respectively. The mean required dosage of propofol was 101 ± 2.8 mg. No complications such as