**Supplementary Table 1. Baseline characteristics in the entire cohort**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Nonpledgeted (n=1144)** | **Pledgeted (n=1096)** | **p-value** |
| Sex (female) | 408 (35.66%) | 407 (37.14%) | 0.47 |
| Diabetes | 337 (29.46%) | 376 (34.31%) | 0.01 |
| Hypertension | 938 (81.99%) | 906 (82.66%) | 0.68 |
| Chronic obstructive pulmonary disease | 271 (23.69%) | 237 (21.62%) | 0.24 |
| Peripheral vascular disease | 158 (13.81%) | 128 (11.68%) | 0.13 |
| Cerebrovascular disease | 198 (17.31%) | 206 (18.80%) | 0.36 |
| Heart failure | 363 (31.73%) | 323 (29.47%) | 0.25 |
| Arrhythmia | 214 (18.71%) | 157 (14.32%) | 0.01 |
| Status  Elective  Urgent  Emergent | 936 (81.82%)  187 (16.35%)  21 (1.84%) | 766 (69.89%)  317 (28.92%)  13 (1.19%) | <0.001 |
| Redo cardiac surgery | 306 (26.75%) | 208 (18.98%) | <0.001 |
| Body mass index | 29.03 [25.40-33.90] | 29.43 [25.95-33.70] | 0.07 |
| Age | 69.00 [60.00-76.00] | 68.00 [60.00-76.00] | 0.18 |
| Ejection fraction | 58.00 [55.00-63.00] | 58.00 [53.00-63.00] | 0.97 |
| Creatinine | 1.00 [0.80-1.20] | 0.98 [0.80-1.10] | 0.02 |
| Prosthetic valve type  Bioprosthetic  Mechanical  Unknown | 660 (57.69%)  353 (30.86%)  131 (11.45%) | 831 (75.82%)  164 (14.96%)  101 (9.22%) | <0.001 |

**Supplementary Table 2. Postoperative Clinical and Echocardiographic Outcomes in the entire cohort**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Nonpledgeted (n=1144)** | **Pledgeted (n=1096)** | **p-value** |
| Operative mortality (STS definition) | 32 (2.80%) | 20 (1.82%) | 0.13 |
| Reoperation (for any cause) | 87 (7.60%) | 59 (5.38%) | 0.03 |
| Blood product transfusion | 294 (25.70%) | 325 (29.65%) | 0.04 |
| Stroke | 23 (2.01%) | 16 (1.46%) | 0.32 |
| Prolonged ventilation (>24hrs) | 88 (7.69%) | 65 (5.93%) | 0.10 |
| New-onset renal failure | 34 (2.97%) | 21 (1.92%) | 0.11 |
| Atrial fibrillation | 400 (34.97%) | 401 (36.59%) | 0.42 |
| Length of stay (days) | 6.00 [5.00-9.00] | 7.00 [5.00-10.00] | <0.001 |
| Mean aortic valve gradient | 8.00 [6.00-10.00] | 11.00 [8.00-16.00] | <0.001 |
| Aortic Regurgitation  Trace  Mild  Moderate  Severe | 286 (25.00%)  79 (6.91%)  16 (1.40%)  4 (0.35%) | 167 (15.24%)  90 (8.21%)  25 (2.28%)  6 (0.55%) | <0.001 |
| Paravalvular leak  Trace  Mild  Moderate  Severe | 28 (2.45%)  13 (1.14%)  3 (0.26%)  2 (0.17%) | 30 (2.74%)  22 (2.01%)  5 (0.46%)  4 (0.36%) | 0.27 |
| Ejection fraction | 55.00 [55.00-60.00] | 55.00 [52.50-60.00] | 0.07 |

**Supplementary Table 3. Number and percentage of nonpledgeted and pledgeted AVRs per year**

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Nonpledgeted** | **Pledgeted** | **Total** |
| **2011** | 43 (48.86%) | 45 (51.14%) | 88 |
| **2012** | 96 (42.86%) | 128 (57.14%) | 224 |
| **2013** | 100 (42.02%) | 138 (57.98%) | 238 |
| **2014** | 106 (42.91%) | 141 (57.09%) | 247 |
| **2015** | 118 (39.46%) | 181 (60.54%) | 299 |
| **2016** | 91 (38.56%) | 145 (61.44%) | 236 |
| **2017** | 135 (60.27%) | 89 (39.73%) | 224 |
| **2018** | 191 (66.78%) | 95 (33.22%) | 286 |
| **2019** | 157 (67.67%) | 75 (32.33%) | 232 |
| **2020** | 107 (64.46%) | 59 (35.54%) | 166 |

**Supplementary table 4. Outcomes of nonpledgeted and pledgeted AVR according to year**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Outcomes** | **Nonpledgeted** | **Pledgeted** | **P value** |
| 2011 | CTB | 21 (48.84%) | 21 (46.67%) | 0.84 |
|  | Readmission | 25 (58.14%) | 32 (71.11%) | 0.20 |
|  | HF readmission | 10 (23.26%) | 17 (37.38%) | 0.14 |
| 2012 | CTB | 50 (52.08%) | 42 (32.81%) | 0.004 |
|  | Readmission | 56 (58.33%) | 92 (71.88%) | 0.03 |
|  | HF readmission | 25 (26.04%) | 42 (32.81%) | 0.27 |
| 2013 | CTB | 30 (30.00%) | 40 (28.99%) | 0.87 |
|  | Readmission | 53 (53.00%) | 79 (57.25%) | 0.52 |
|  | HF readmission | 20 (20.00%) | 35 (25.36%) | 0.33 |
| 2014 | CTB | 24 (22.64%) | 37 (26.24%) | 0.52 |
|  | Readmission | 59 (55.66%) | 77 (54.66%) | 0.87 |
|  | HF readmission | 22 (20.75%) | 35 (24.82%) | 0.45 |
| 2015 | CTB | 30 (25.42%) | 45 (24.86%) | 0.91 |
|  | Readmission | 54 (45.76%) | 94 (51.93%) | 0.30 |
|  | HF readmission | 22 (18.64%) | 45 (24.86%) | 0.21 |
| 2016 | CTB | 21 (23.08%) | 26 (17.93%) | 0.33 |
|  | Readmission | 40 (43.96%) | 71 (48.97%) | 0.45 |
|  | HF readmission | 16 (17.58%) | 18 (12.41%) | 0.27 |
| 2017 | CTB | 19 (14.07%) | 14 (15.73%) | 0.73 |
|  | Readmission | 55 (40.71%) | 31 (34.83%) | 0.37 |
|  | HF readmission | 13 (9.63%) | 10 (11.24%) | 0.70 |
| 2018 | CTB | 19 (9.95%) | 8 (8.42%) | 0.68 |
|  | Readmission | 63 (32.98%) | 46 (48.42%) | 0.01 |
|  | HF readmission | 20 (10.47%) | 15 (15.79%) | 0.20 |
| 2019 | CTB | 10 (6.37%) | 4 (5.33%) | 0.76 |
|  | Readmission | 51 (32.48%) | 27 (36.00%) | 0.60 |
|  | HF readmission | 17 (10.83%) | 3 (4.00%) | 0.08 |
| 2020 | CTB | 5 (4.67%) | 6 (10.17%) | 0.17 |
|  | Readmission | 25 (23.36%) | 19 (32.30%) | 0.22 |
|  | HF readmission | 13 (12.15%) | 6 (10.17%) | 0.70 |

CTB = cease to breathe, HF = heart failure