

Push Down Technique To Avoid Complete Atrioventricular Blok In Sutureless Aortic Valve Replacement

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BACKGROUND

Sutureless aortic valve replacement (SUAVR) with Perceval valve (Corcym) is associated with increased rate of complete atrioventricular block (CAVB) compared to conventional AVR. We developed the push-down technique (PDT) to minimize CAVB rate after SUAVR. The aim of this study is to assess impact of PDT on CAVB rate after SUAVR

OBJECTIVE

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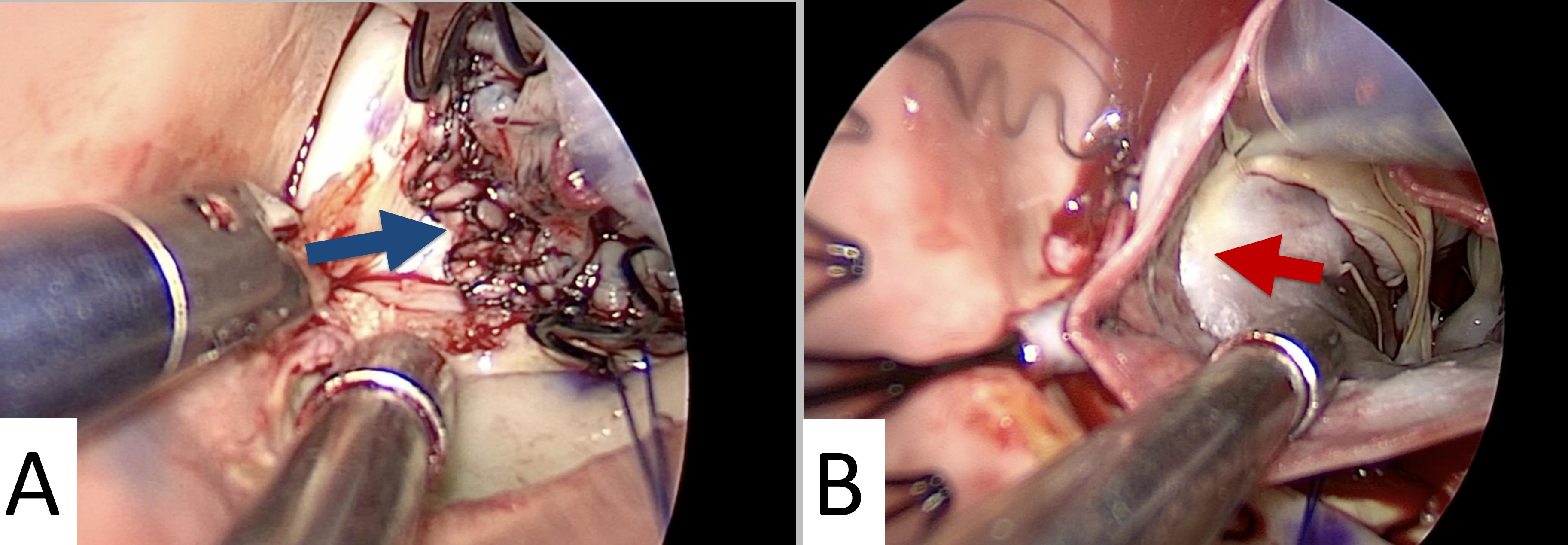
METHOD

We conducted a retrospective (intention-to-treat) analysis of HCR performed at our institution from May 2014 to July 2022

PATIENTS

Variable	N=130 (%)
Age (years)	77 [73-80]
Age ≥80 years	30 (23)
BSA (m ²)	1.53 [1.38-1.63]
Female sex	63 (48)
NYHA class III or IV	25 (19)
Diabetes (medication)	44 (34)
COPD	13 (10)
Chronic renal failure	46 (35)
Dialysis dependent	26 (20)
AF	16 (12)
CRBBB	5 (3.8)
Prior cardiac operation	7 (5.3)
Post AVR (PVD)	5 (3.8)
Post CABG	2 (1.6)
euroSCORE II (%)	2.07 [1.63-3.49]

SURGICAL TECHNIQUE



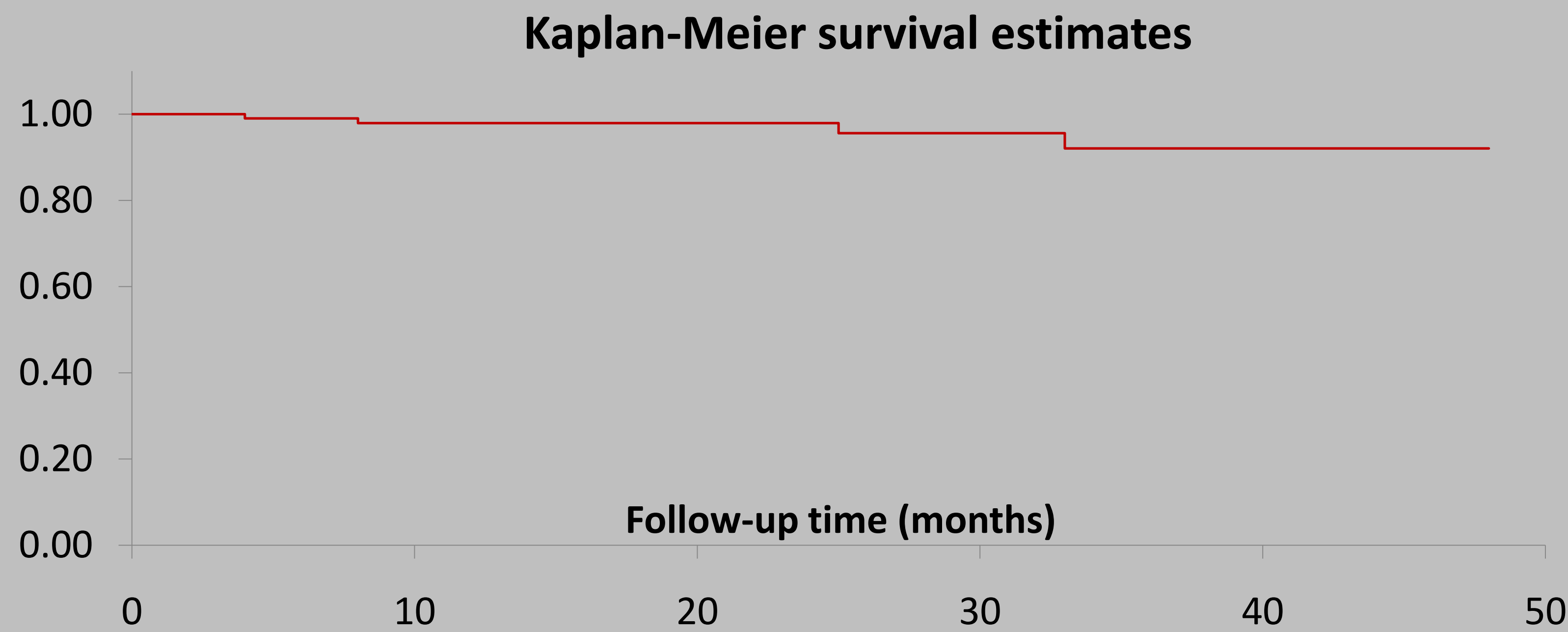
In Perceval deployment, A remnant of commissure of the right and non-coronary cusp is grasped by the forceps in the surgeon's right hand. Then the commissure is pushed down toward the left ventricle and held at the level of the supra-annular cuff of the Perceval (Figure A, blue arrow). The first assistant rotates the knob of the Perceval holder to open the inflow ring. As a result, the conduction system is positioned below the inflow ring (Figure B, red arrow).

RESULTS

Surgical details	N=130 (%)
All operations	
Total time (min)	201 [150-286]
CPB time (min)	92 [76-120]
Cross-clamp time (min)	60 [33-60]
Isolated AVR (mini-sternotomy)	
Total time (min)	150 [134-177]
CPB time (min)	82 [73-102]
Cross-clamp time (min)	56 [50-67]
Implant success rate	100%
Conversion to sternotomy (n)	0

Variables	N=130 (%)
In-Hospital Mortality	2 (1.6)
Cerebral vascular accident	1
Acute exacerbation of Interstitial pneumonia	1
Intensive care unit stay (days)	2 [2-3]
Hospital stay (days)	12 [10-16]
Ventilation duration (hours)	8 [6-12]
Complication	
Low cardiac output syndrome (n)	0
Re-exploration (n)	0
Respiratory insufficiency	0
Gastrointestinal bleeding (n)	0
Temporary renal replacement therapy (n)	2 (1.6)
Cerebral vascular accident	1 (0.8)
Complete atrioventricular block	
Temporary	5 (3.8)
Permanent	0
New onset postoperative LBBB	1 (0.8)
New onset postoperative atrial fibrillation	38 (29)

FREEDOM FROM PACEMAKER IMPLANTATION



CONCLUSION

PDT is an effective and simple technique to avoid postoperative CAVB in SUAVR.