

2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

**Association between preoperative coronary artery disease
assessed by the CAD-RADS classification and surgical outcomes in
patients undergoing isolated aortic valve surgery**

공지사항

- 소속기관이나 저자명이 드러나지 않도록 해주세요.
- 제목 슬라이드 포함 최대 6장, Font size 20 이상
- **PPT 파일 작성 후 PDF로 전환해서 접수(필수)**

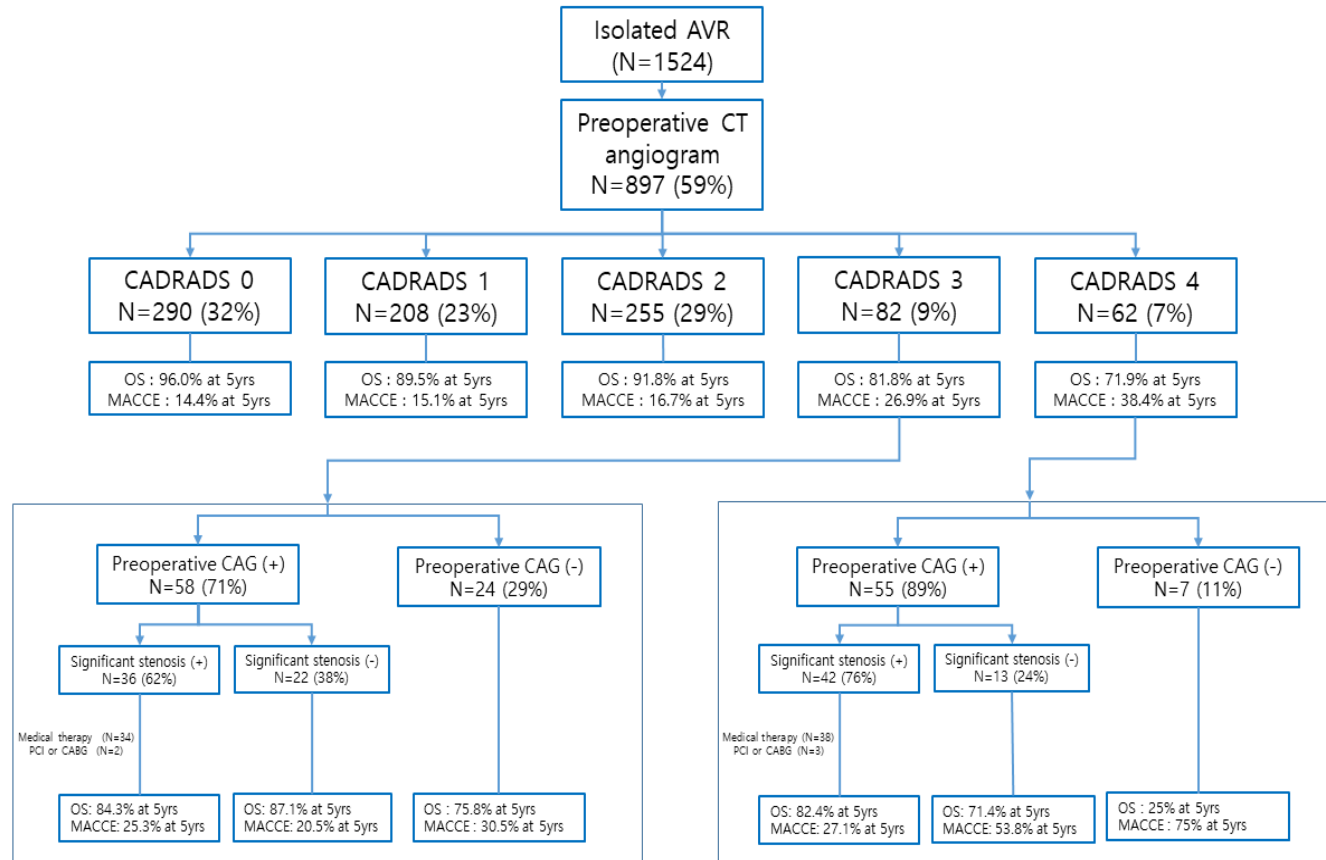


- Coronary artery disease (CAD) is frequently a coincidental finding in patients with severe aortic valve disease.
- This study aimed to investigate the association between preoperative CAD severity, as classified by the Coronary Artery Disease Reporting and Data System (CAD-RADS), and surgical outcomes in patients undergoing isolated aortic valve replacement (AVR).

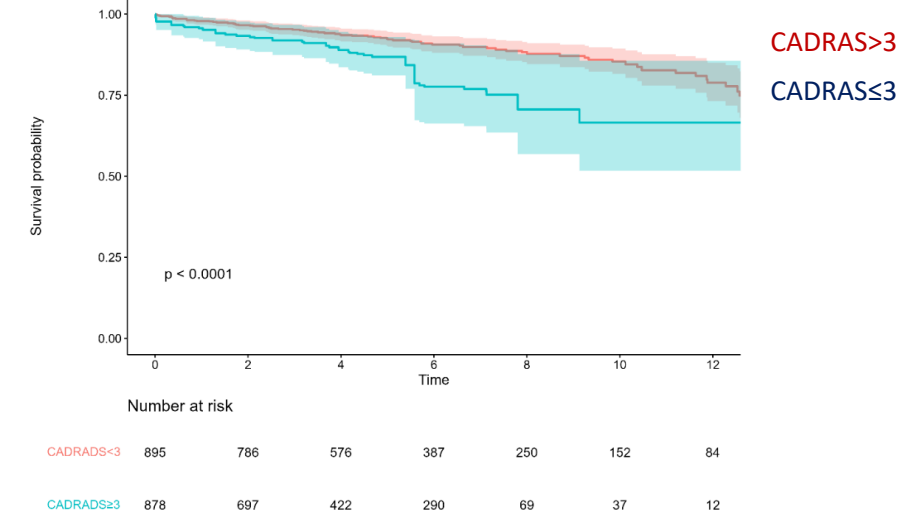
- From 2000 to 2022, a total of 897 patients (452 women; mean age, 66.1 ± 9.3 years) undergoing isolated aortic valve replacement and preoperative coronary computed tomography angiography (CCTA) were stratified by the CAD-RADS score, which ranks the severity of CAD from 0 to 5.
- Primary outcome of interest was all-cause death, and secondary outcome was major adverse cardiac and cerebrovascular events (MACCE).
- Pairwise comparison using Bonferroni method and Cox proportional hazard models were used to examine the association between perioperative variables and long-term clinical outcomes.

- Preoperative CAD severity as assessed by the CAD-RADS score was 0 in 290 (32%) patients, 1 in 208 (23%) patients, 2 in 255 (29%) patients, 3 in 82 (9%) patients, and 4 in 62 (7%) patients.
- The rates of all-cause death and the MACCE tended to be increased in parallel with CAD-RADS score (4%, 10.5%, 8.2%, 18.2%, 28.1%, respectively, at 5 years, $P<0.0001$, and 14.4%, 15.1%, 16.7%, 26.9%, 38.4% respectively, at 5 years, $P<0.0001$).
- CAD-RADS ≥ 3 was associated with higher risk of all-cause death [hazard ratio (HR) 3.53; 95% confidence interval (CI) 1.94-6.43, $p<0.001$] and MACCE [HR 1.83; 95% CI 1.01-3.34, $p=0.048$].
- Preoperative coronary angiography was performed on 58 patients (78%) in CAD-RADS 3 and 55 patients (89%) in CAD-RADS 4, and significant coronary artery stenosis was observed in 36 patients (62%) and 42 patients (76%), respectively.
- Patients with significant coronary artery stenosis received either medical therapy or coronary intervention, and as compared to those who did not undergo preoperative CAG, they had lower rates of all-cause mortality and MACCE.

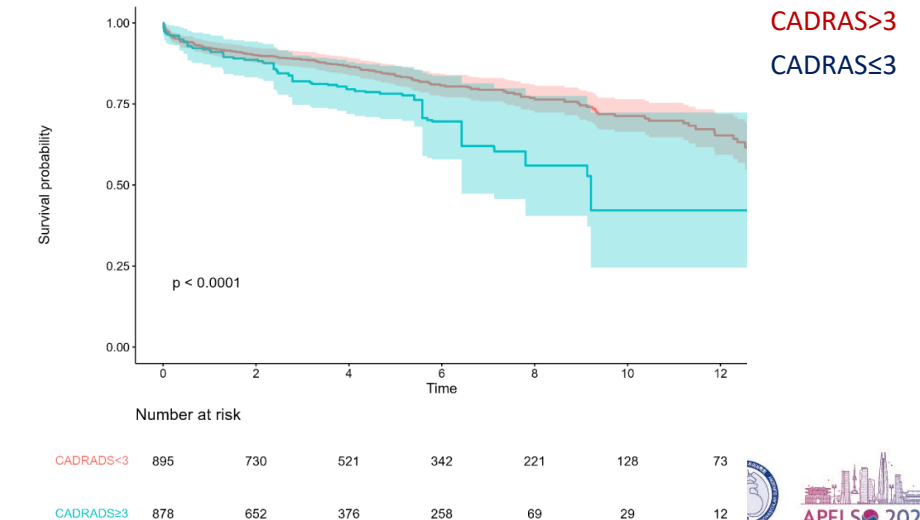
Surgical outcomes in patients undergoing isolated AVR according to CADRADS score



(A) IPTW-weighted Kaplan-Meier curves for all-cause death



(B) IPTW-weighted Kaplan-Meier curves for MACCE



- Preoperative CCTA with CAD-RADS assessment was associated with long-term clinical outcomes including all-cause death and MACCE as a significant proportion of patients undergoing isolated AVR had CAD, which required medical therapy or intervention.
- Notably, for patients with CAD-RADS ≥ 3 patients, early detection of significant CAD may improve long-term surgical outcomes.