

Rapid Ventricular Pacing During Transapical Aortic Valve Implantation in the Setting of Severe Left Ventricular Dysfunction: Friend or Foe?

Mohamed Hassan, Dejan Radakovic, Nodir Madrahimov, Jerry Easo, Jörg Babin-Ebell, Ivan Aleksic, Khaled Hamouda.

Department of Thoracic & Cardiovascular Surgery, Julius-Maximilians-University Hospital of Wuerzburg, Würzburg, Germany

INTRODUCTION

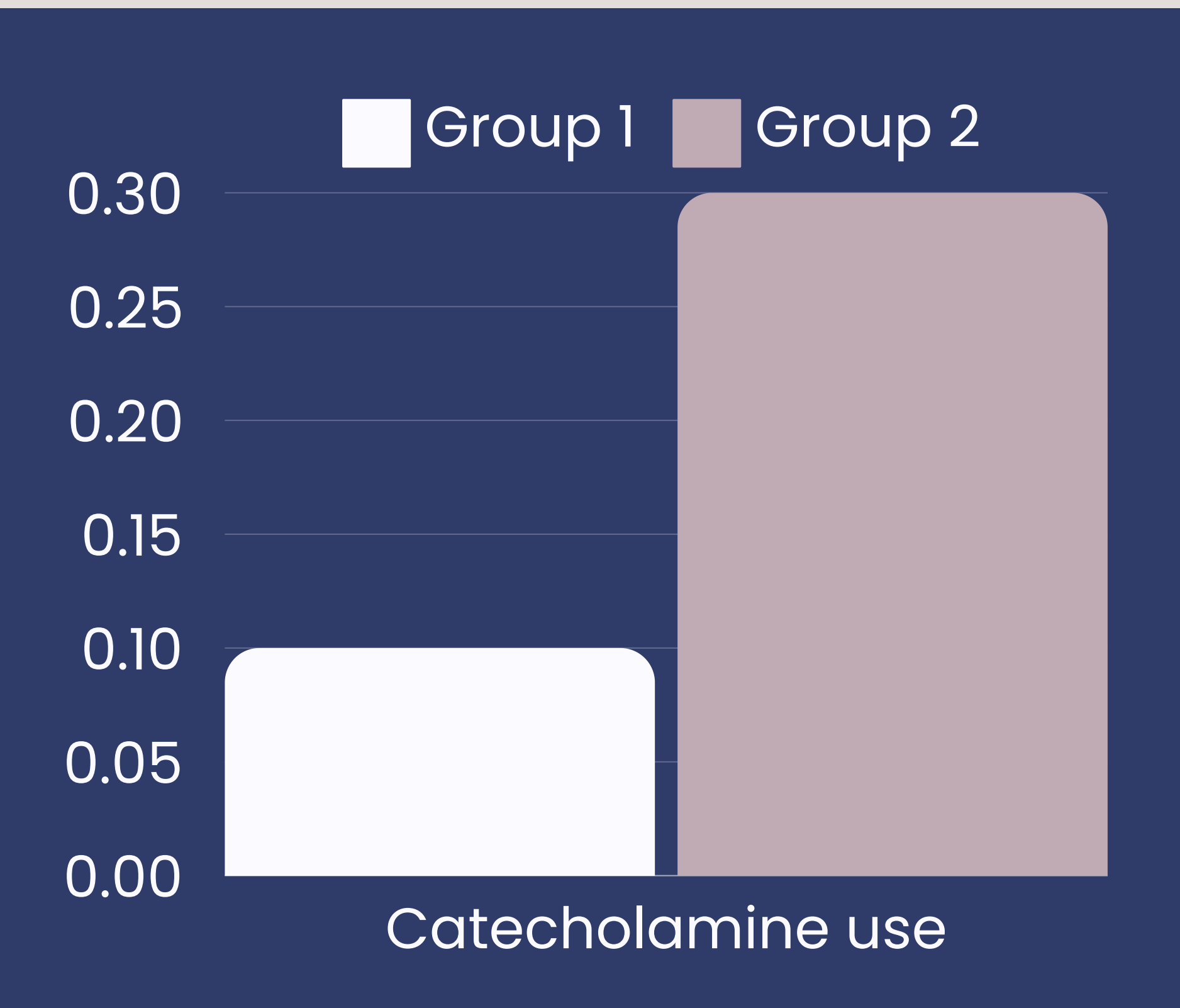
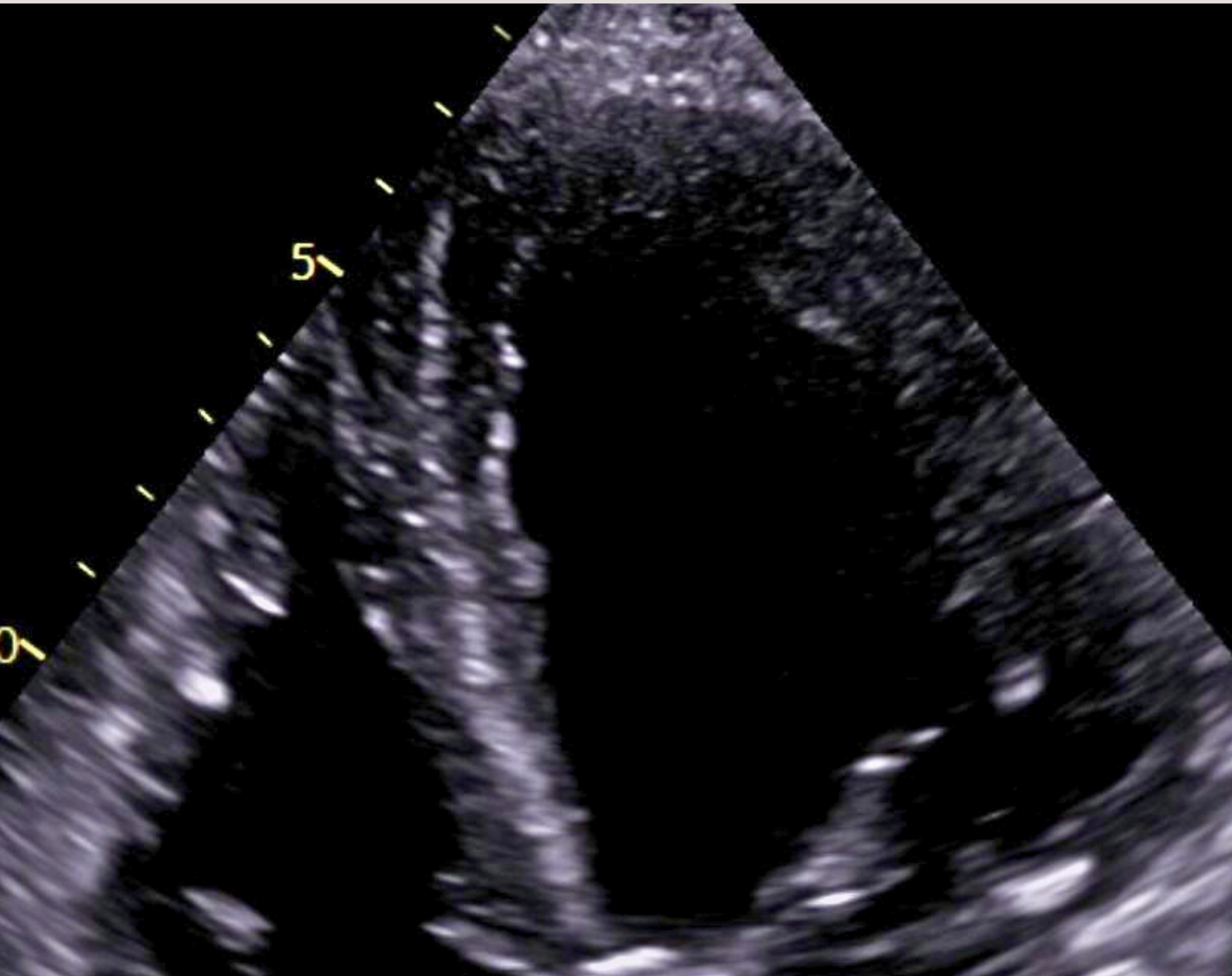
- In patients with severe aortic stenosis who are at high surgical risk, Transapical aortic valve implantation (TA-TAVI) employing rapid ventricular (RV) pacing has emerged as a viable treatment option. However, it carries significant risks, especially in those with left ventricular dysfunction.
- *Gap:* To date, no other studies have specifically addressed these concerns of increased catecholamine requirements, longer ICU stays, and higher mortality after RV pacing .

METHODS

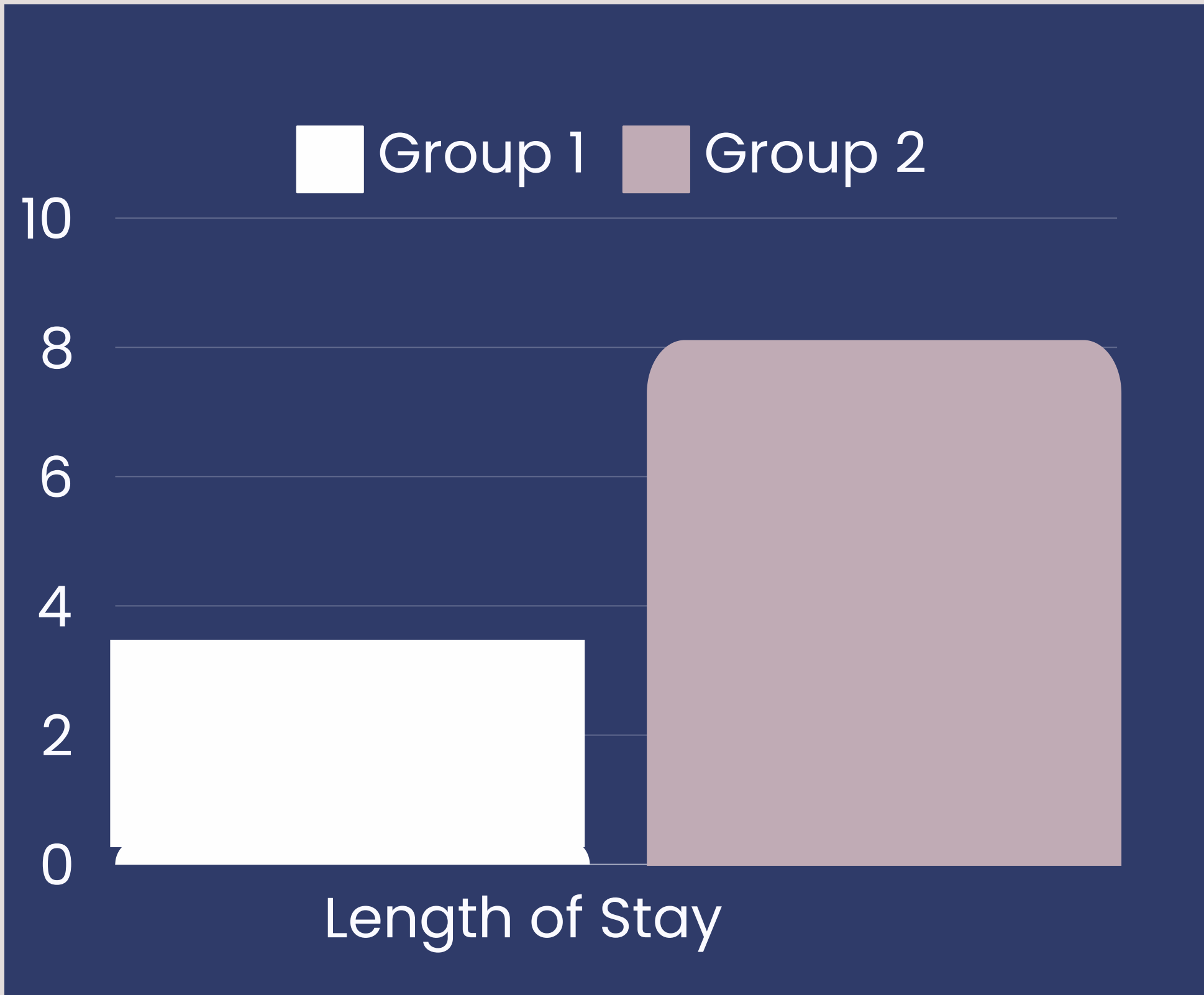
- *Study design:* Retrospective
- Inclusion criteria: Patients who underwent TA-TAVI with LV-EF <30%
- Number of samples documented: 127
- Participants satisfy the criteria: 32
- Participants enrolled 18
- The patients were divided into two groups: Group 1 (n=9): Patients without intraoperative RV pacing and
- Group 2 (n=9): Patients with intraoperative RV pacing

RESULTS

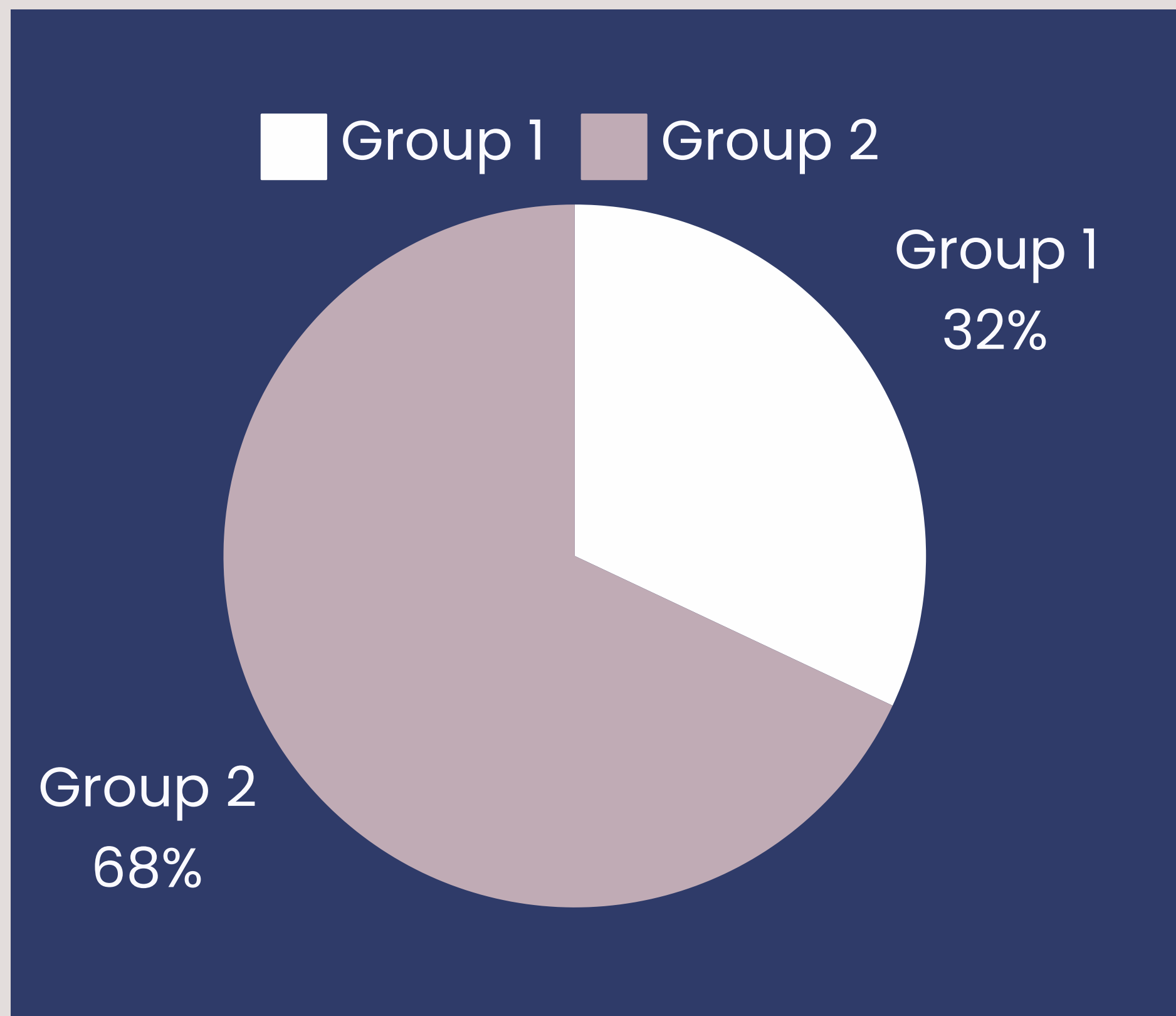
- 1.Catecholamine Use: The average norepinephrine dose in Group 2 was $0.3 \pm 0.1 \mu\text{g/kg/min}$ compared to $0.1 \pm 0.05 \mu\text{g/kg/min}$ in Group 1 ($p<0.01$)
- 2.ICU Length of Stay: The average ICU stay was significantly longer in Group 2 (5.8 ± 2.1 days) compared to Group 1 (3.2 ± 1.4 days; $p=0.02$).
- 3.One year survival: Group 2 exhibited a higher mortality rate (17%) compared to Group 1 (8%; $p=0.04$).



GRAPH 1.Catecholamine Use



GRAPH 2. ICU Length of Stay



GRAPH 3.One-year survival

Conclusion:

This retrospective study indicates that RV pacing during transapical TAVI in patients with severe LV dysfunction is associated with significantly worse postoperative outcomes, including increased catecholamine use, extended ICU stays, and higher mortality.

Contact:

Mohamed Hassan FEBCTS, FEBCTS-CVSCC

Dept. of Thoracic and Cardiovascular Surgery, Julius- Maximilians University Hospital, Germany

Email: hassan_m@ukw.de