

AAOCA Cohort

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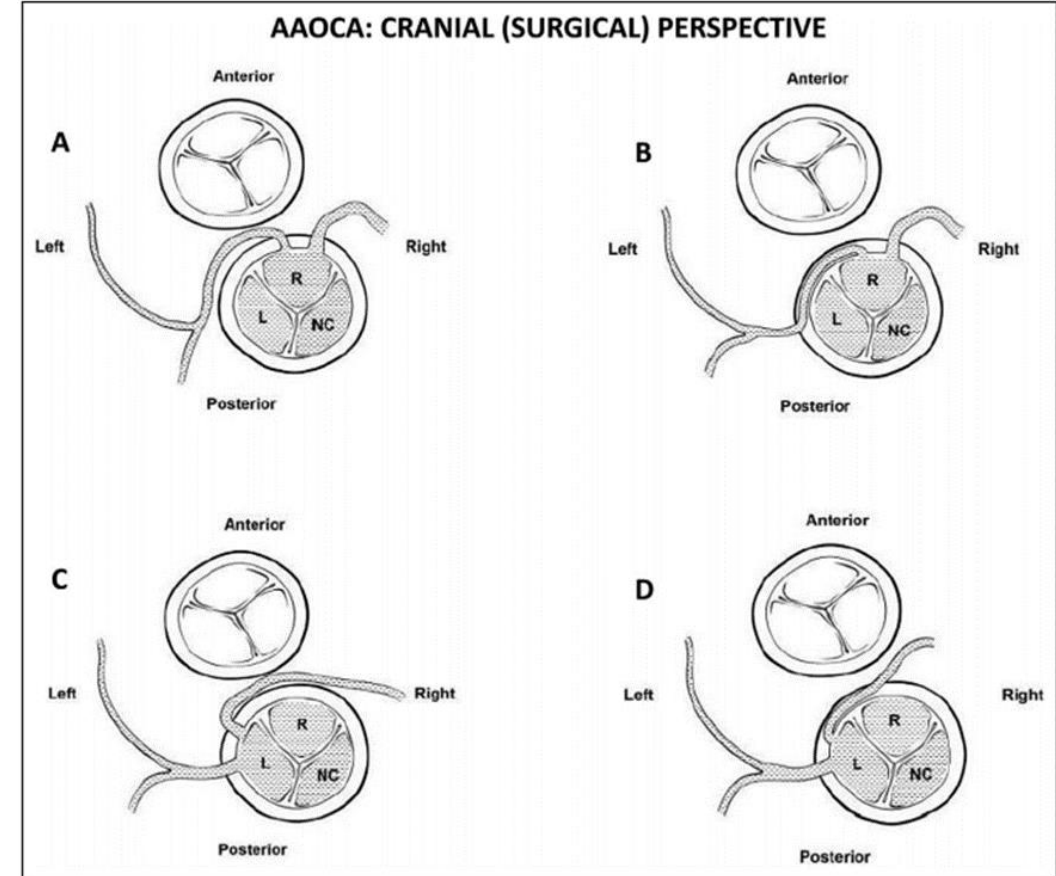
CHSS Annual Meeting

Chicago, IL

October 22, 2017

PAST STUDIES

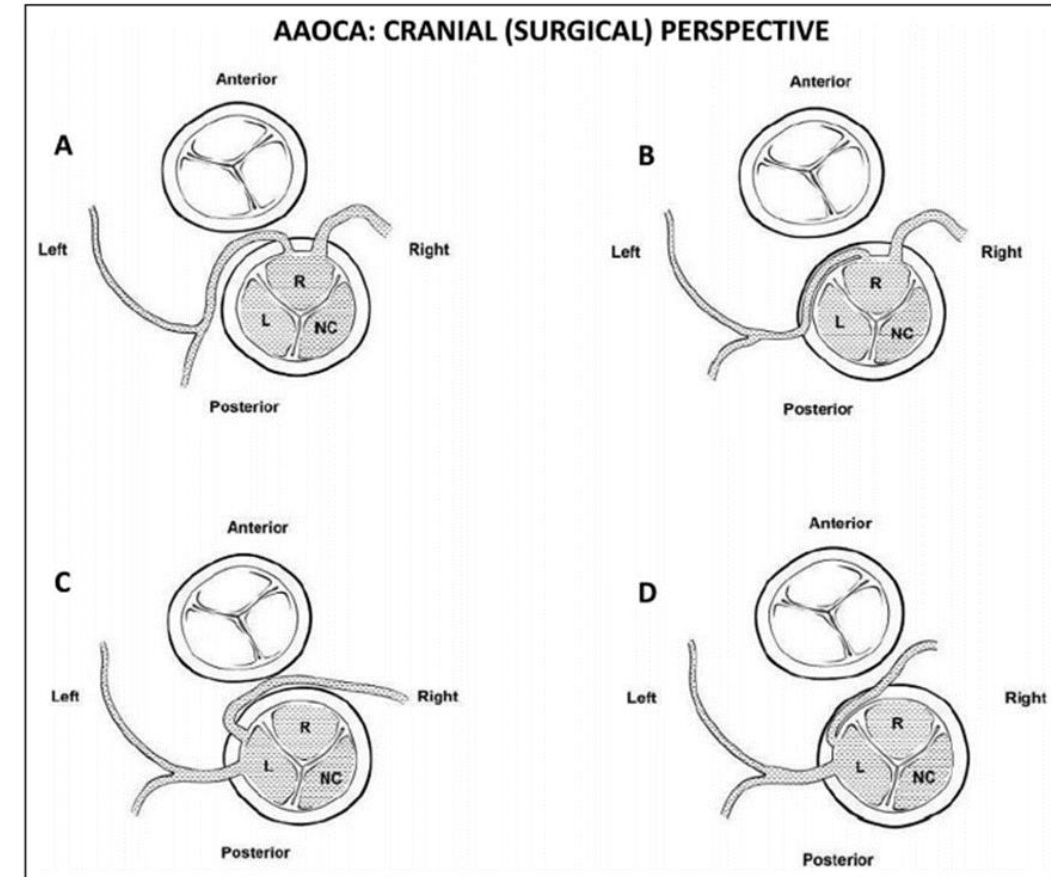
- 1. About the registry
- 2. Echo vs. multimodality imaging
- 3. Review of surgical patients



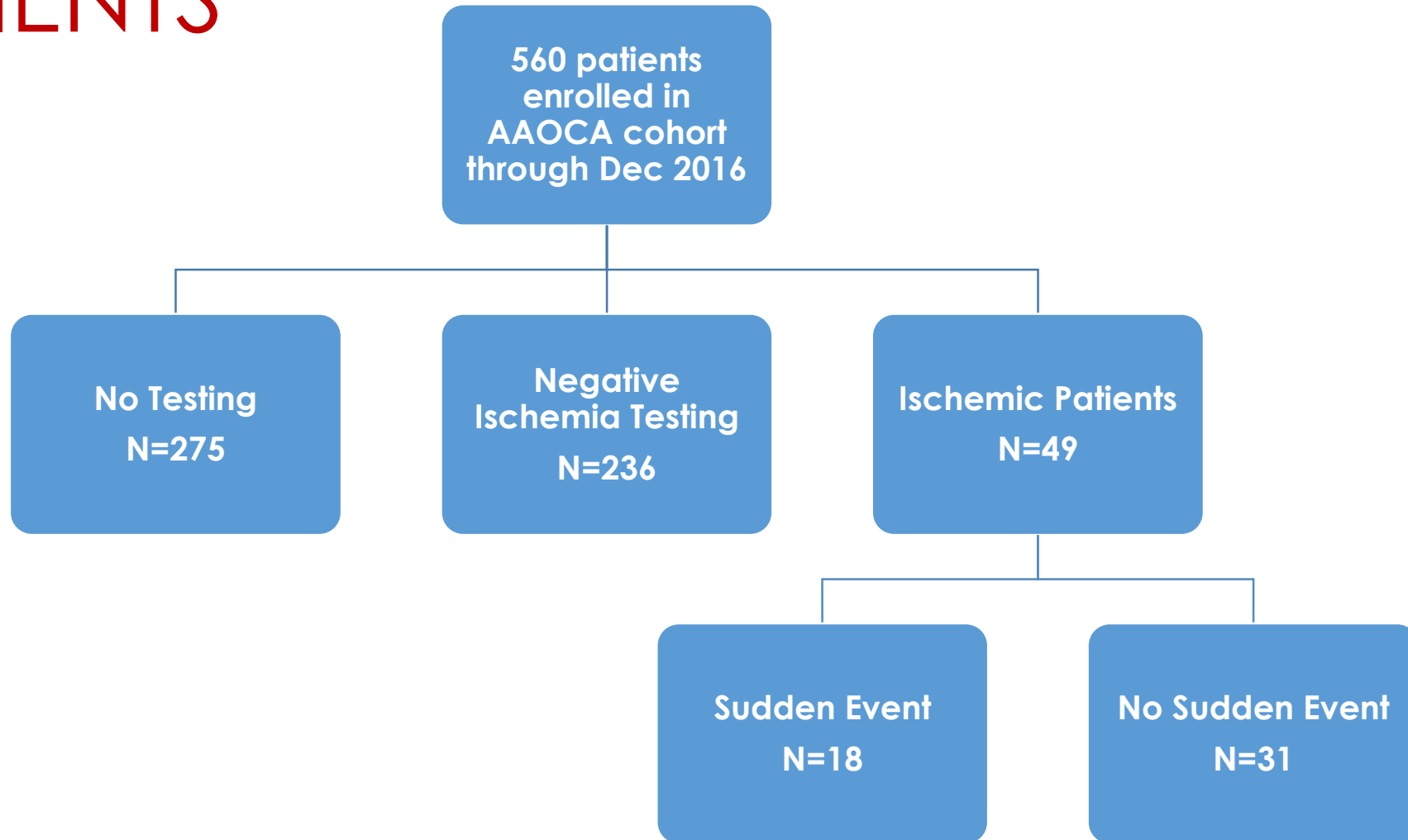
CURRENT STUDY

Ischemic Patient Descriptive analysis

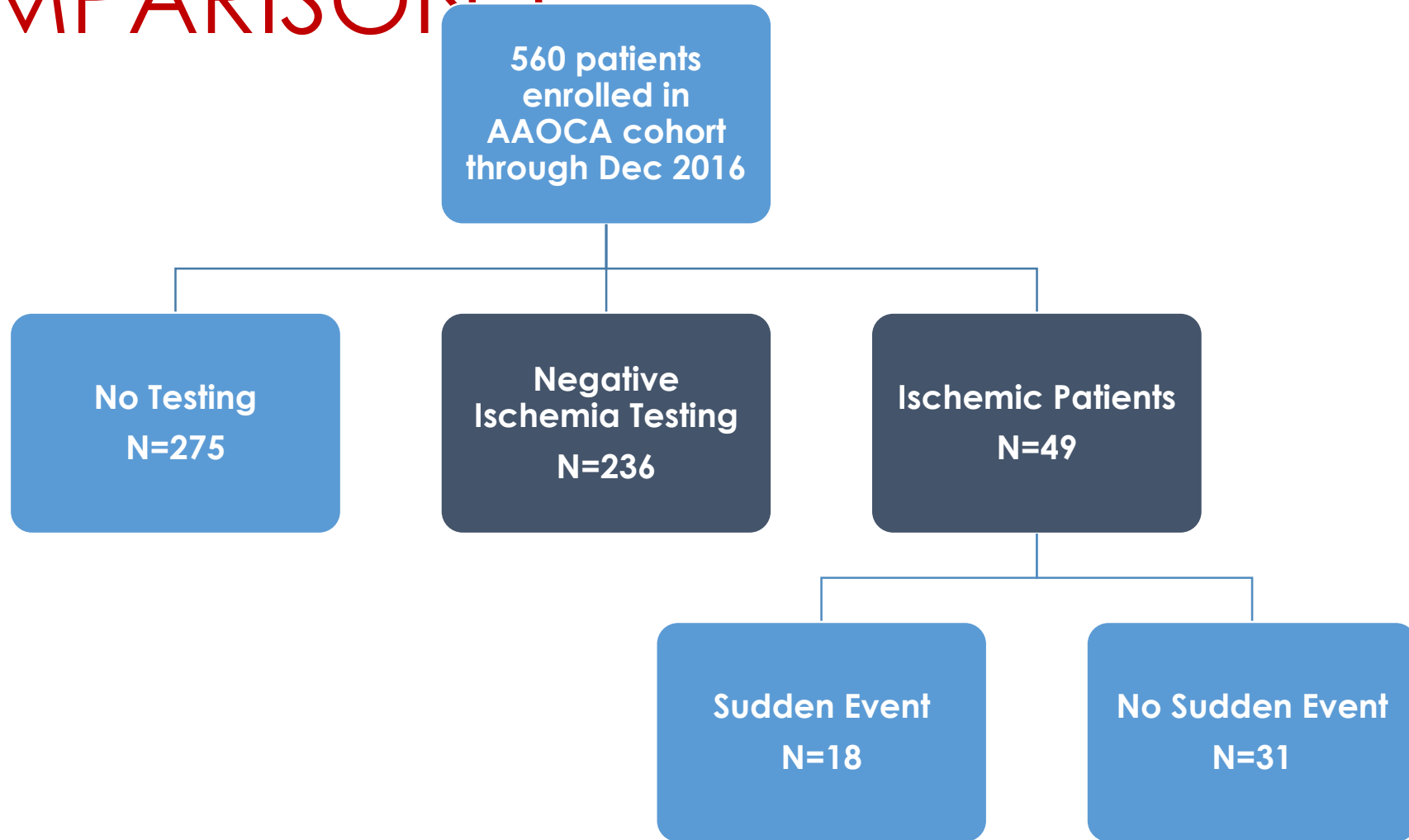
- 560 patients through Dec. 2016
- All patients reviewed and ischemic status determined based on:
 - Exertional Syncope
 - Exertional Arrhythmia
 - Ischemia on exercise test, stress echo, or nuclear perfusion
 - Aborted Sudden Death
 - Sudden Death
- 49 ischemic patients



PATIENTS

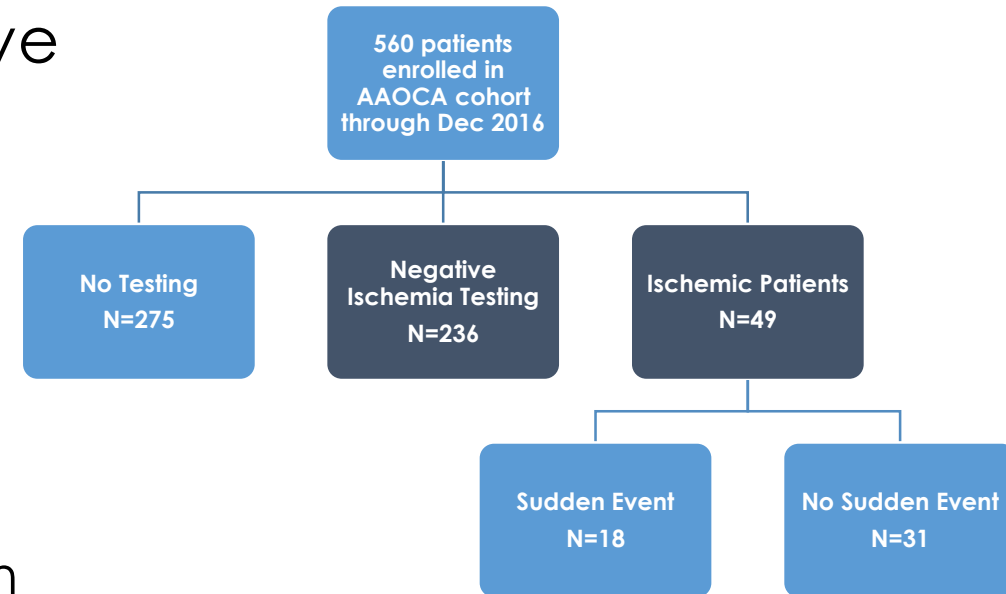


COMPARISON 1

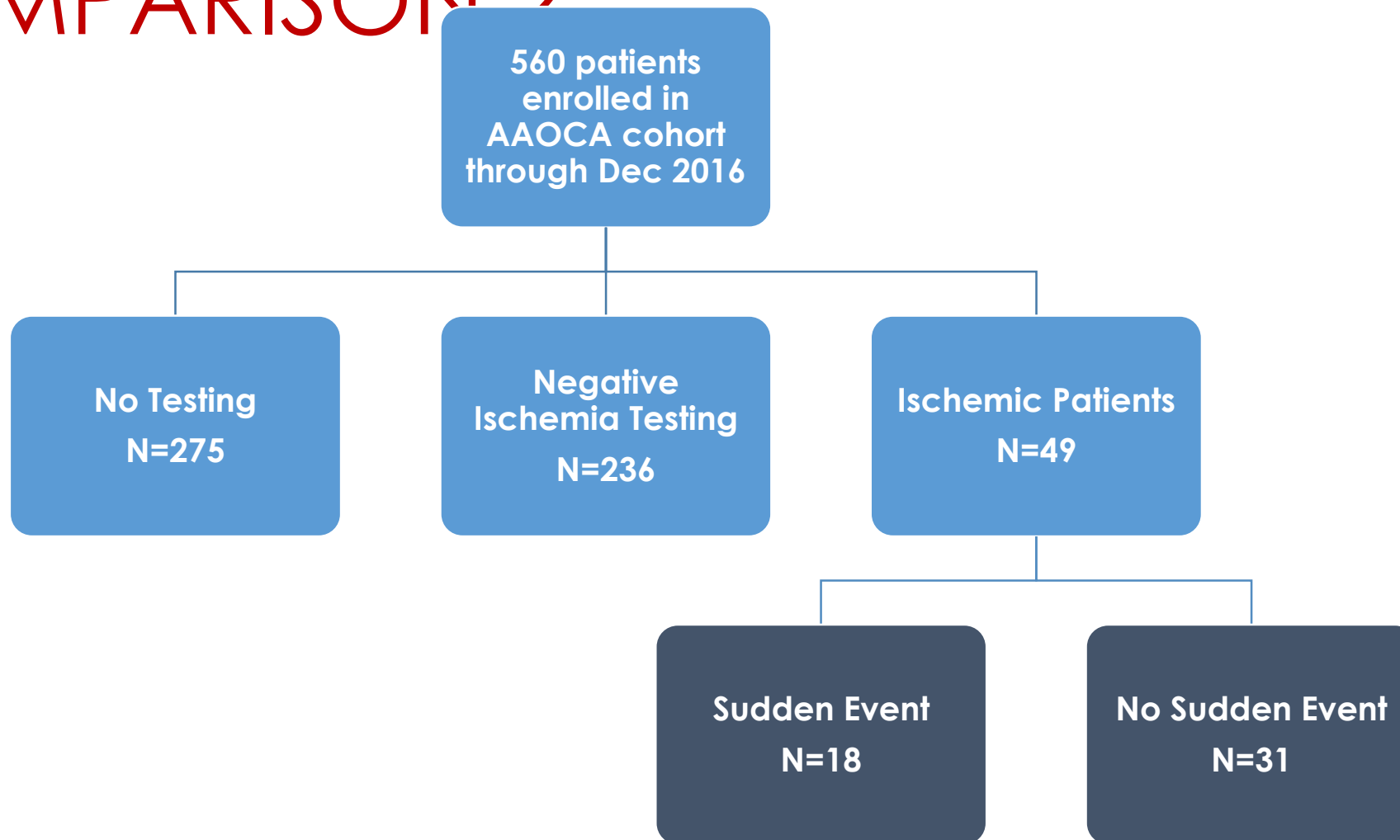


COMPARISON 1

- Ischemic (49) vs Tested Non-Ischemic (236)
 - Ischemic patients were more likely to have surgery ($p < 0.001$)
- Anomalous Left Coronary (AAOLCA)
 - 46/236 (19%) vs 28/49 (57%), $p < 0.0001$
- Among the AAOLCA patients,
 - Ischemic patients were more likely to have an intramural course, high orifice, and slit-like orifice

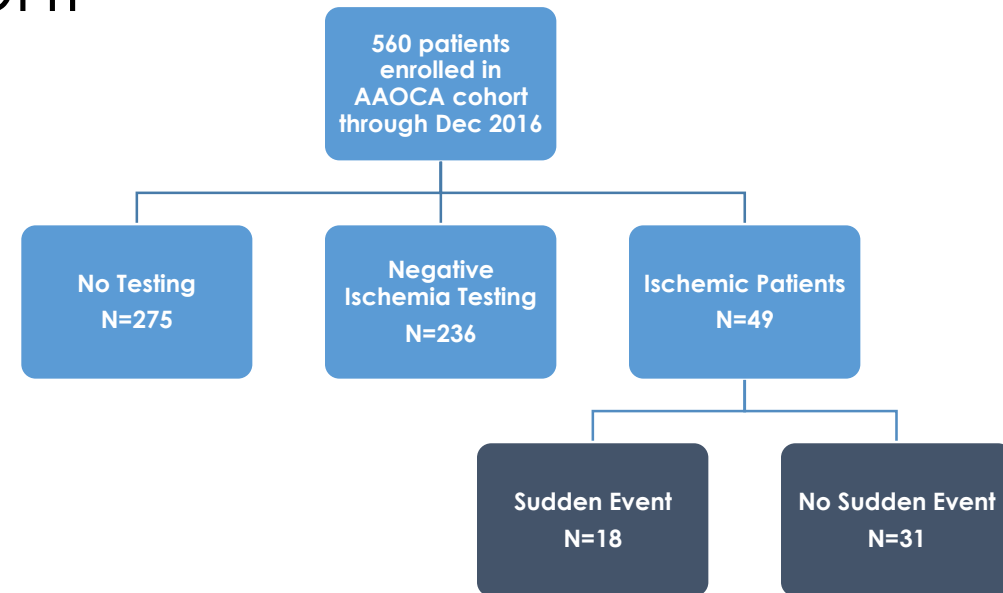


COMPARISON 2



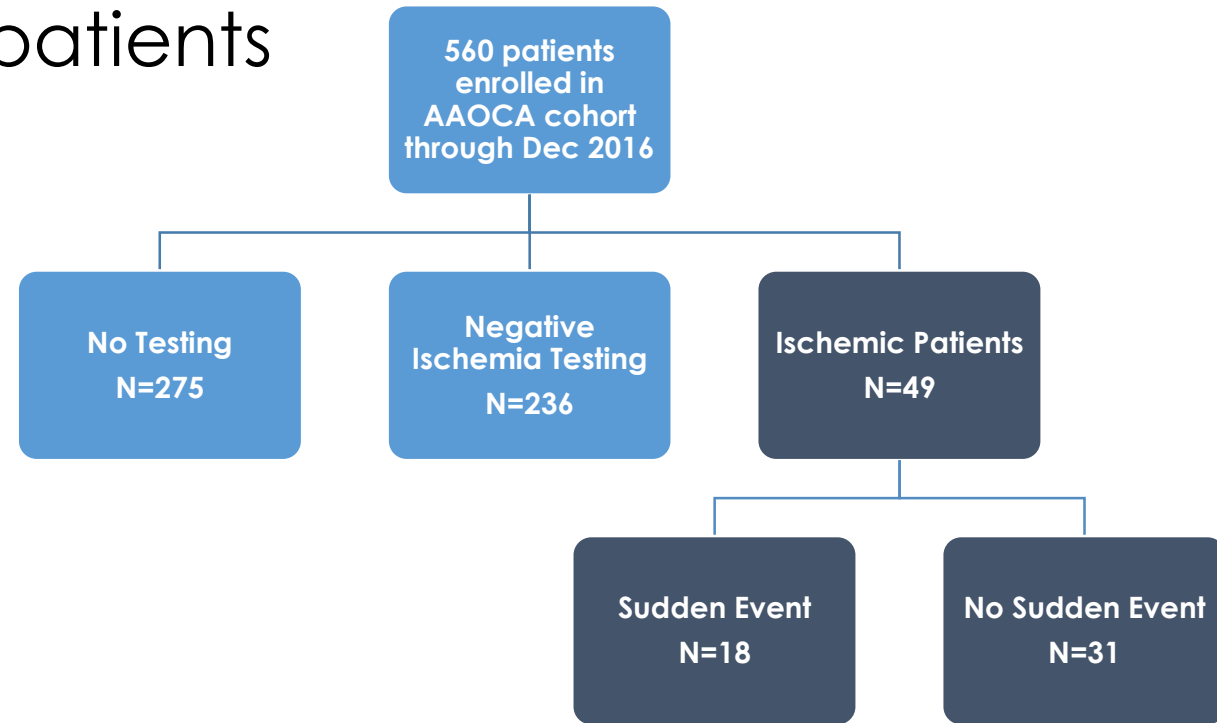
COMPARISON 2

- Sudden Event (18) vs Non-sudden event Ischemic (31)
 - No significant differences in anatomic features



SURGERY

- Surgical treatment of ischemic patients
 - 40/49 underwent surgical repair
 - 39/40 underwent unroofing
 - 4 reoperations:
 - Ostial issues
 - 9/49 without surgical repair:
 - 4 died
 - 4 referred for surgical repair
 - 1 lack of follow up



RESEARCH

- Abstract submitted to AATS
- **Title:** Anomalous aortic origin of a coronary artery (AAOCA): Are we closer to risk stratification?
- **Authors:**
- A Jegatheeswaran MD, PhD, P Devlin MD, BM McCrindle MD, MPH, WG Williams MD, CA Caldarone MD, WM DeCampi MD, PhD, JW Gaynor MD, ML Jacobs MD, JK Kirklin MD, RO Lorber MD, CM Mery MD, MPH, S Molossi MD, JD St. Louis, MD, J Brothers MD.



WHY THIS STUDY IS IMPORTANT

- No consensus on how to manage patients
- Physician and institutional practices vary
- Largest database of AAOCA patients
- Potential to find answers:
 - Who is most at risk for ischemia and sudden death?
 - Which lesions are benign?
 - Which lesions require exercise restriction?
 - Which patients should we offer surgery to?

CRITICAL STEPS IN AAOCA

- YOU ARE VITAL TO THIS PROJECT!!!!
- Most important aspect of data collection = surgical atomization from surgeon:
 - while the surgeon is in the OR, intramural measurement
 - at least by the end of that day
- This cannot be done later because:
 - SURGEONS FORGET!
 - Anatomy is nuanced
 - All coronaries must be evaluated
 - Measurements in the OR for intramural length

NEXT STEPS

- IMAGING STUDY
 - Will help us figure out which lesions are high risk
- What we need:
 - An echo on CD for every patient enrolled in the study
 - ?SECOND OPINION PATIENTS
 - All CT imaging on CD
 - All MRI imaging on CD
- All images should be in anonymized DICOM format

TAKE HOME MESSAGES

- This registry has the potential to inform strategy and provide answers where none others have before
- We need surgical atomizations
 - in the OR
 - same day by surgeons
 - Measurements by ruler
- We require all echo, CT and MRI studies on CD to be submitted to the Data Center in an anonymized DICOM format
- How can we help you?