



# TCTAP 2023

## What are the Current Optimal Antithrombotic Therapies After TAVR?

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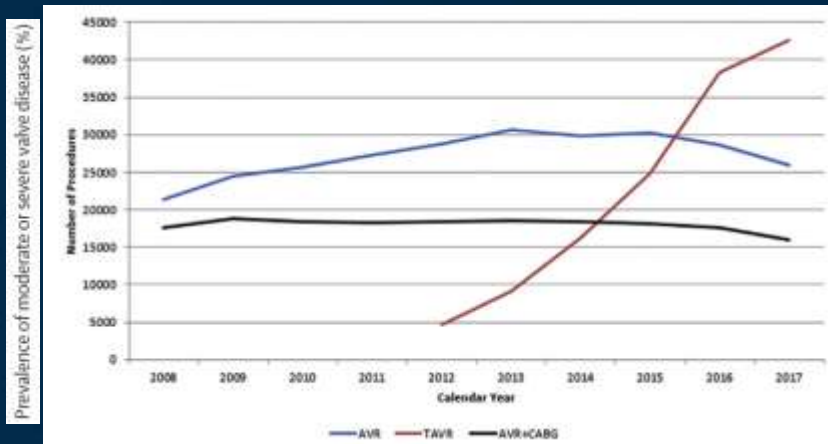
# Disclosure

- I have nothing to disclose.

# Introduction

The number of TAVR procedure is increasing worldwide.

“Number of AVR Procedures in the U.S.”

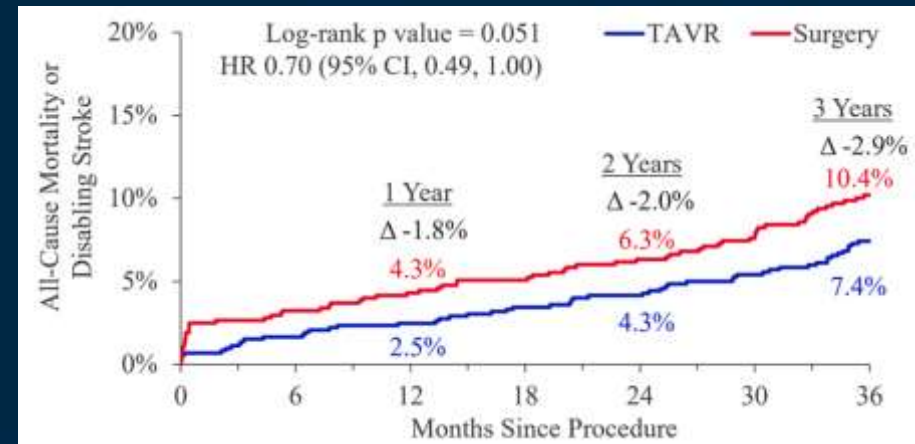


TAVR

SAVR

D'Agostino et al. ATS 2019.

“Evolut low risk trial”



SAVR

TAVR

Forrest, et al. JACC 2023.

# Remaining challenges in TAVR

- Antithrombotic therapy after TAVR
- Leaflet thrombosis
- Structural valve deterioration (SVD)
- Valve in valve (TAV in SAV/ TAV in TAV)
- Permanent pacemaker implantation

# Why do we need to administer antithrombotic therapy after TAVR?

*What is the role/significance of antithrombotic therapy?*

- Prevention of the cardiovascular events.
- Prevention of leaflet thrombosis.
- Maintaining the valve function.

“HALT”



# Antithrombotic therapy after TAVR

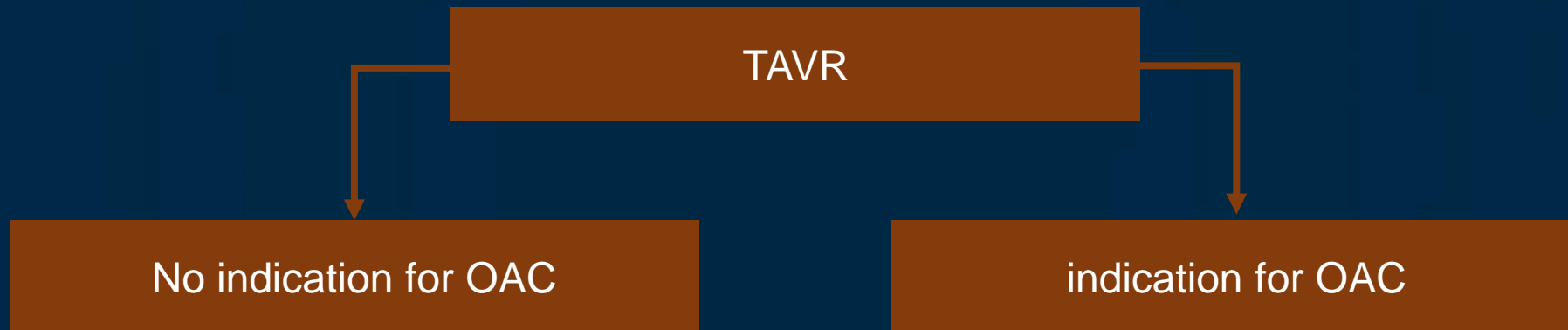
## *Previous guideline recommendation*

- **DAPT** was “empirically” recommended.
  - ✓ Based on the **PCI** field.
  - ✓ No **clear classification** between those who have indication for OAC or not.

→ Robust evidence are warranted.

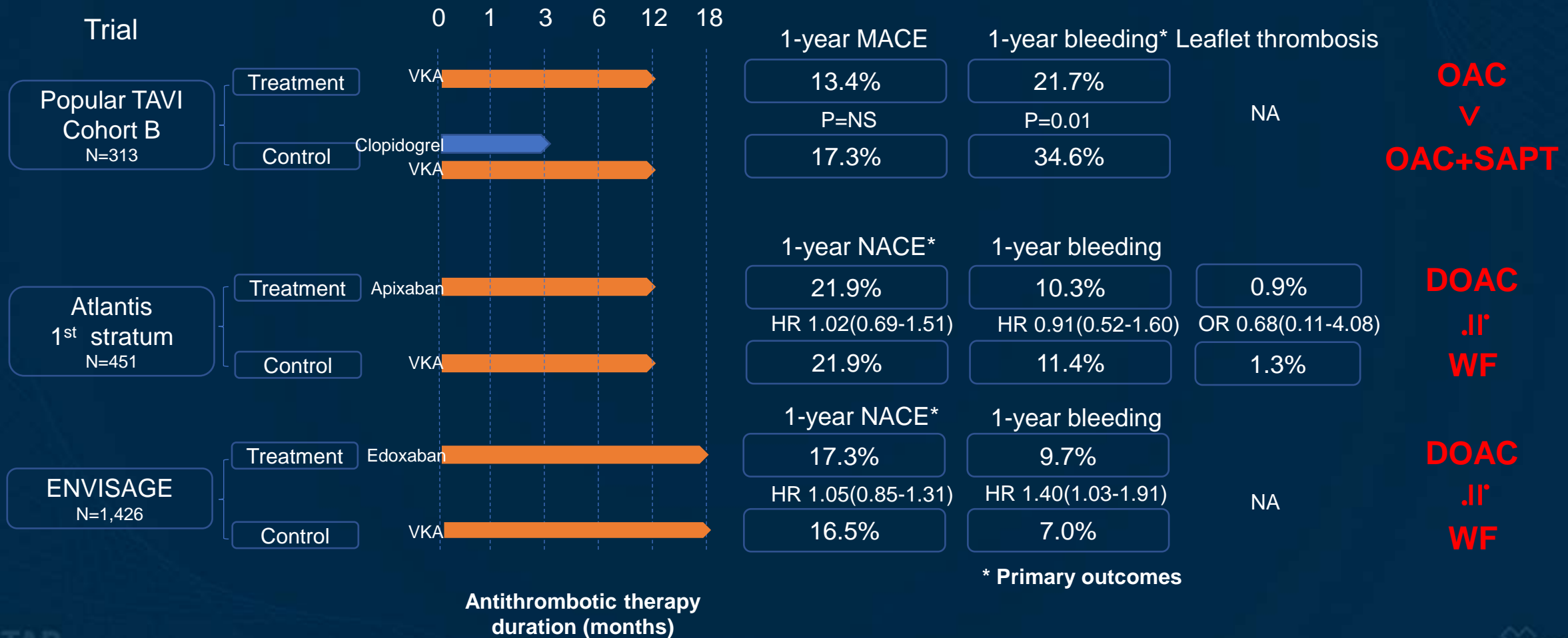
# Antithrombotic therapy after TAVR

*The concept of antithrombotic therapy after TAVR*



# Antithrombotic therapy after TAVR

*Those who have indication for OAC*





# Antithrombotic therapy after TAVR

*Those who have indication for OAC*

**DOAC  $\equiv$  VKA**

**No need for additional SAAPT**

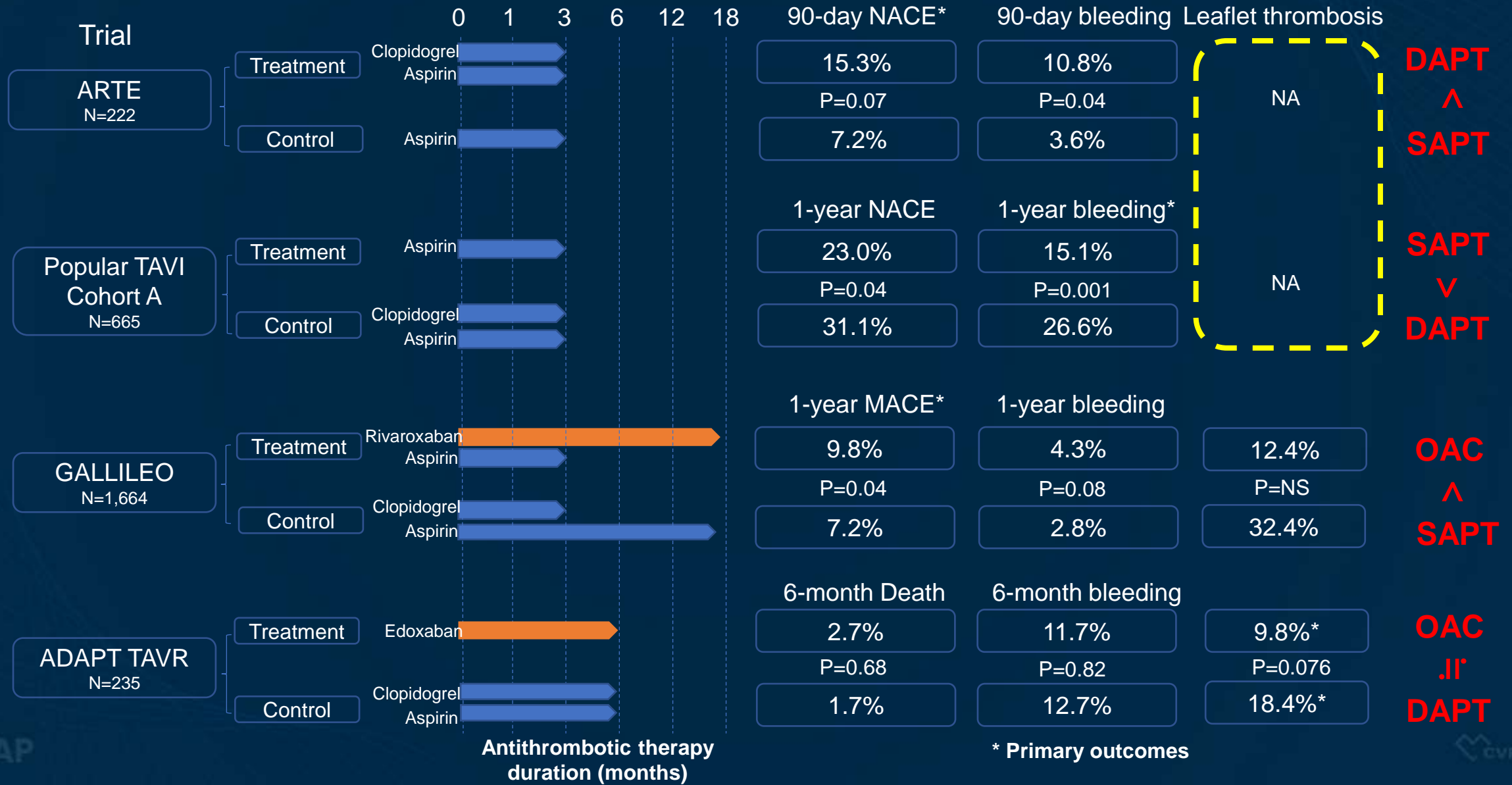
# Antithrombotic therapy after TAVR

Those who have *no indication* for OAC

**DAPT vs. SAPT**  
**SAPT vs. OAC**

# Antithrombotic therapy after TAVR

Those who have no indication for OAC



# Antithrombotic therapy after TAVR

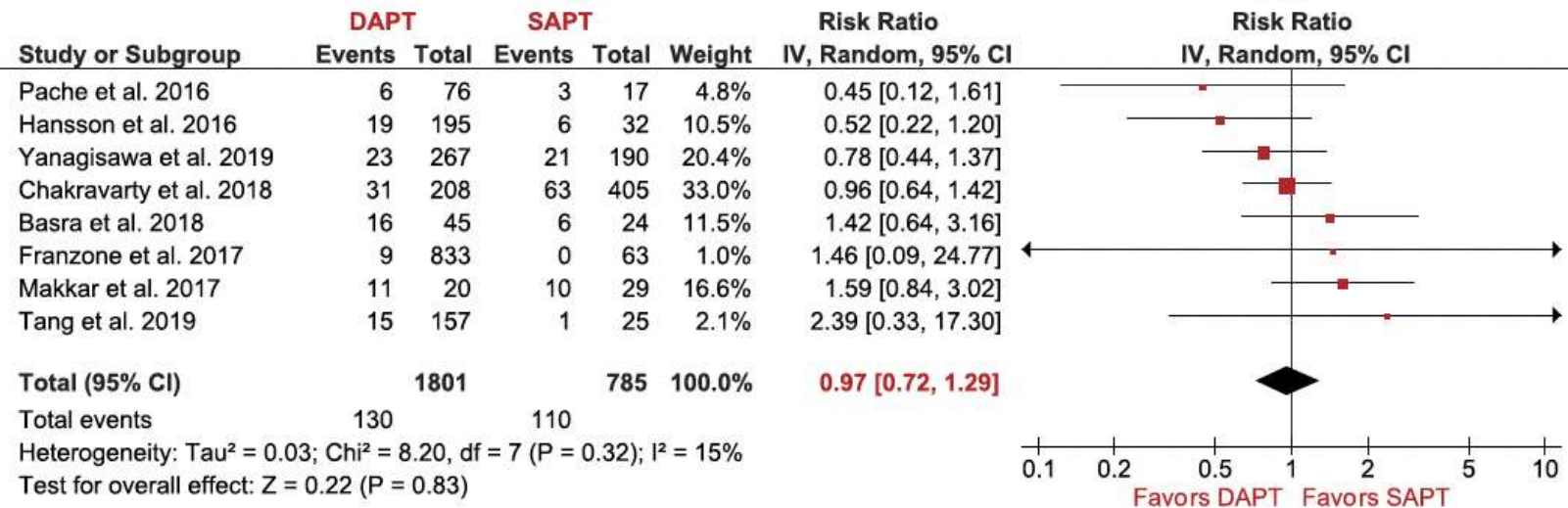
*Incidence of leaflet thrombosis in SAPT/DAPT.*

## Subclinical Leaflet Thrombosis After Transcatheter Aortic Valve Replacement



A Meta-Analysis

**B**



Bogyi, et al. J Am Coll Cardiol Intv 2021.

**HALT: DAPT ≅ SAPT**

# Antithrombotic therapy after TAVR

*Recent recommendation*

**Bleeding: DAPT < SAPT**

**HALT: DAPT  $\doteq$  SAPT**

**DAPT < SAPT**

# Antithrombotic therapy after TAVR

What is the optimal SAPT? ASA vs Clopidogrel.

Circulation: Cardiovascular Interventions

## ORIGINAL ARTICLE

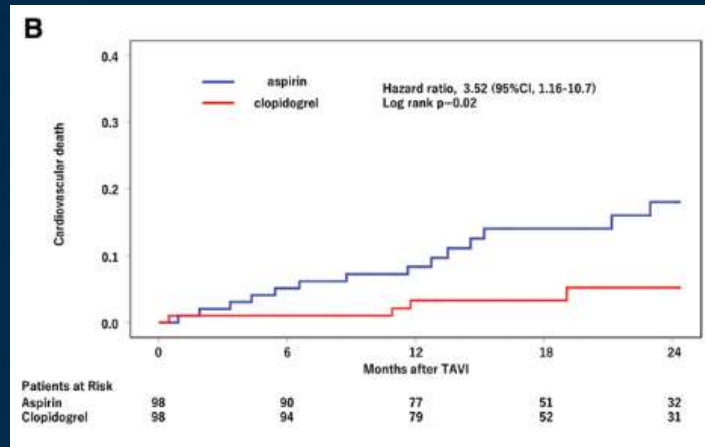
Aspirin Versus Clopidogrel as Single Antithrombotic Therapy After Transcatheter Aortic Valve Replacement

Insight From the Optimized Transcatheter Valvular Intervention Registry

- ✓ Clopidogrel > Aspirin
- ✓ Low incidence of ischemic events

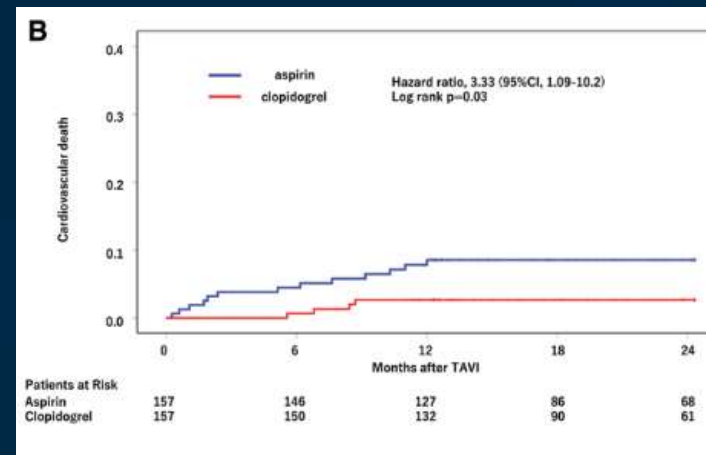
No indication for OAC

CV death



indication for OAC

CV death



Aspirin  
Clopidogrel

Kobari, et al. *Circ Cardiovasc Interv*, 2021

# Antithrombotic therapy after TAVR

*What is the optimal SAPT? ASA vs Clopidogrel.*

## Study Design

Study Type ⓘ : Interventional (Clinical Trial)

Estimated Enrollment ⓘ : 230 participants

Allocation: Randomized

Intervention Model: Parallel Assignment

Masking: None (Open Label)

Primary Purpose: Treatment

Official Title: Aspirin Versus Clopidogrel for Leaflet Thrombosis Prevention in Patients Undergoing Transcatheter Aortic Valve Replacement: ACLO-TAVR Trial

Estimated Study Start Date ⓘ : September 15, 2022

Estimated Primary Completion Date ⓘ : July 2024

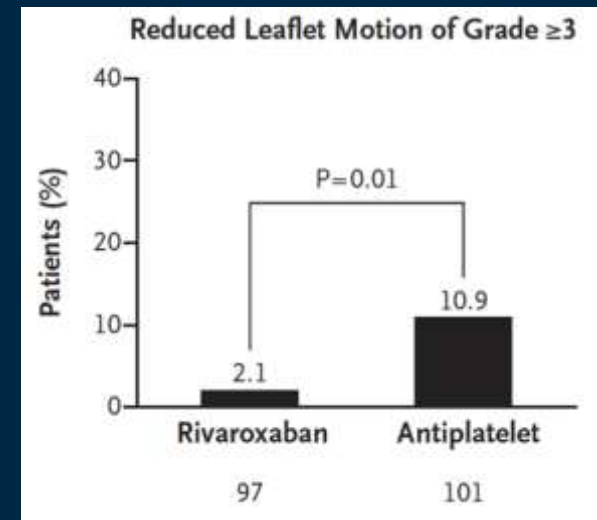
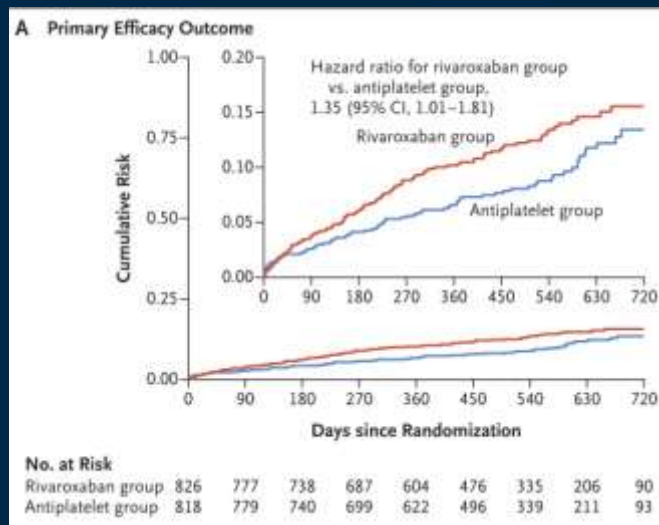
Estimated Study Completion Date ⓘ : July 2025

“Aspirin v.s. Clopidogrel after TAVR”

# Antithrombotic therapy after TAVR

*DO we have to treat HALT?*

“GALLILEO trial”



Ischemic events: APT > OAC

Bleeding events: APT > OAC

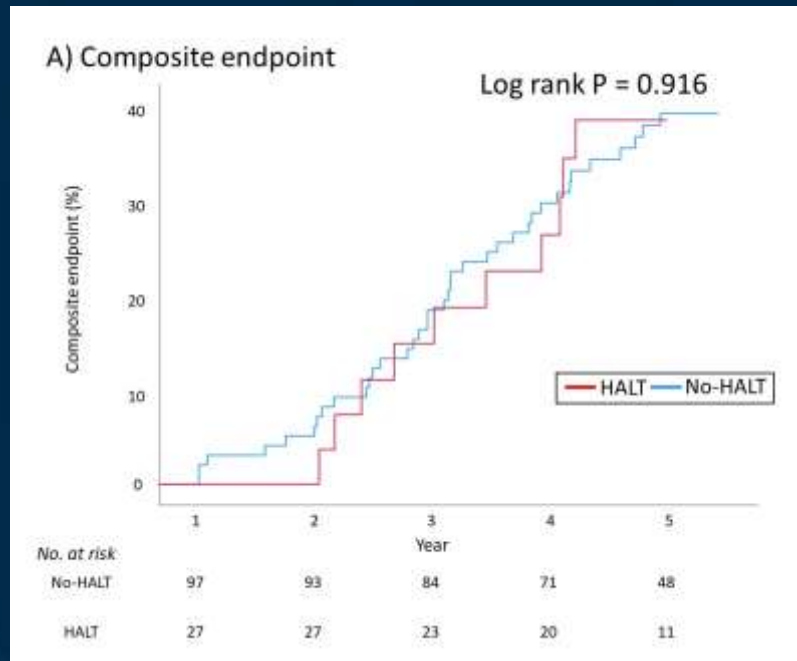
**HALT: APT < OAC**



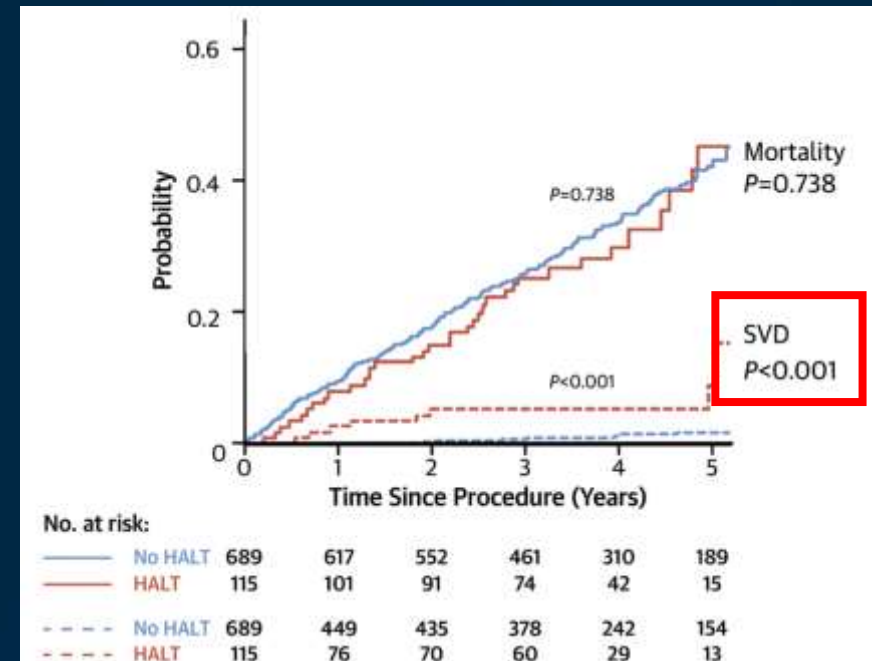
# Antithrombotic therapy after TAVR

*DO we have to treat HALT?*

Composite of all-cause death, HF readmission and stroke



Imaeda, et al. JAHA 2022

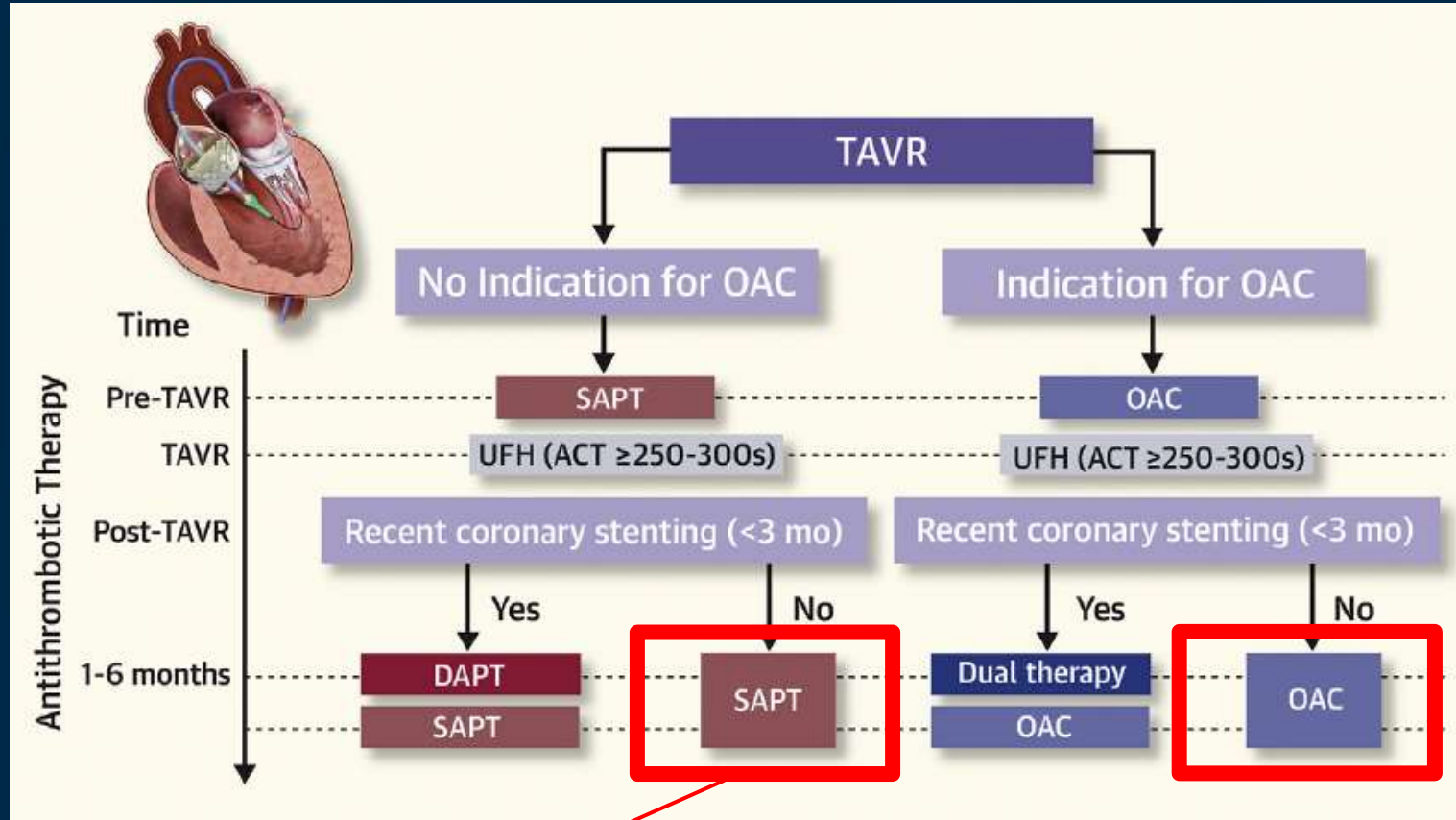


Hein M, et al. J Am Coll Cardiol Intv. 2022

# Antithrombotic therapy after TAVR

Summary of the current recommendation

ESC Guideline, 2022



Clopidogrel > Aspirin??

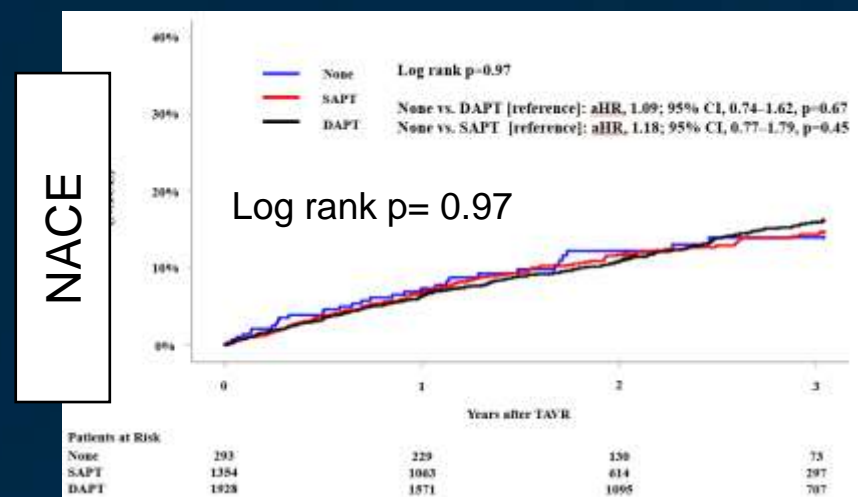
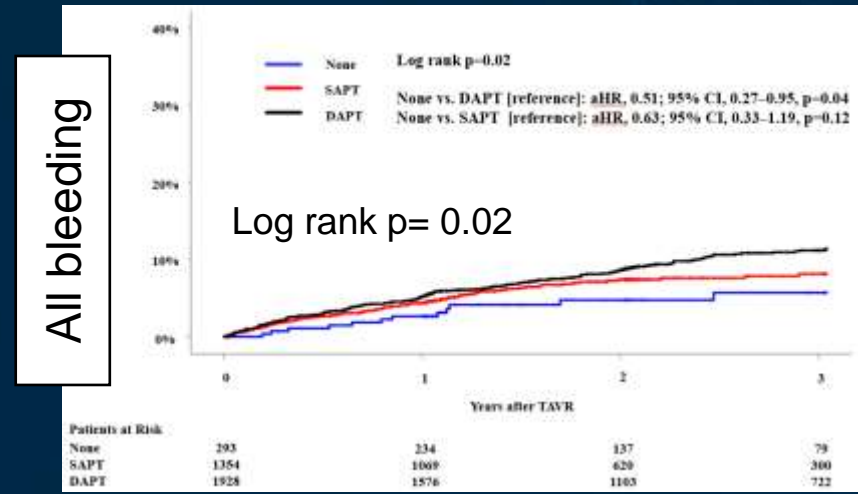
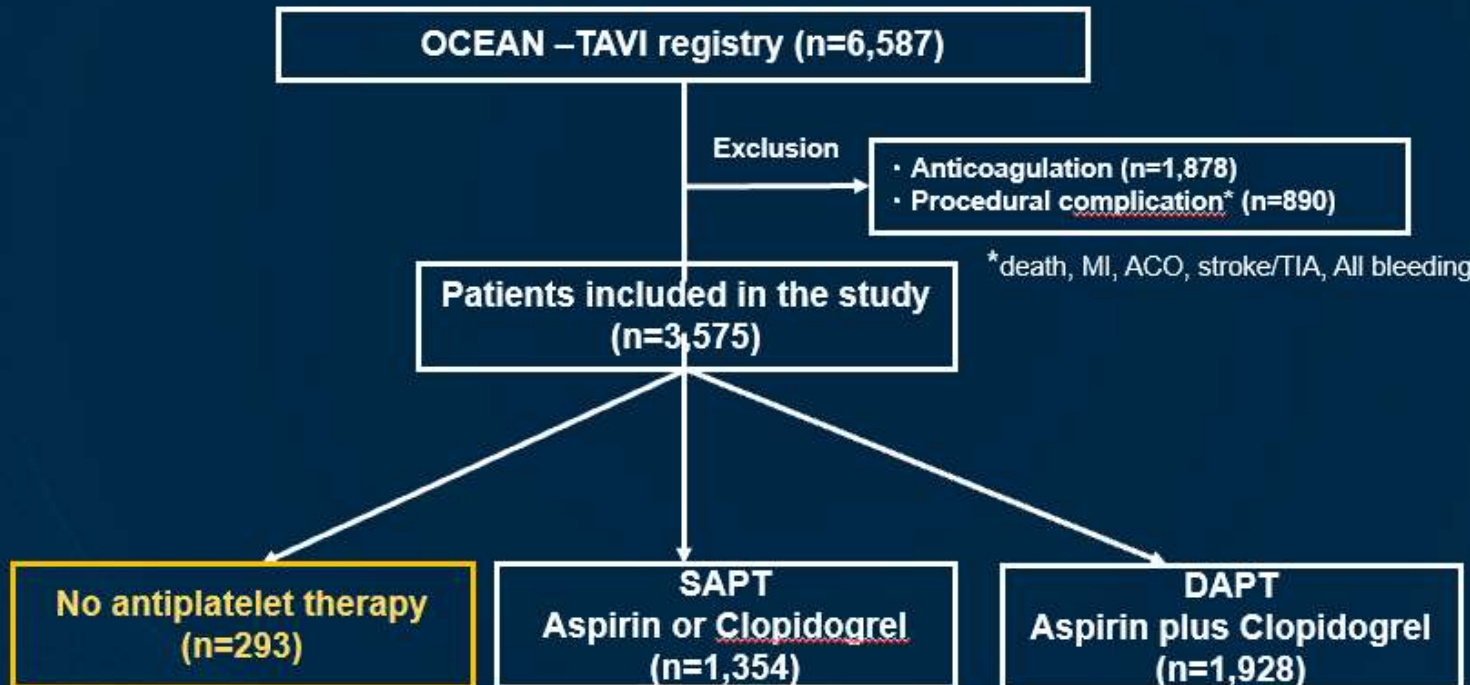
DOAC  $\doteq$  VKA

# Antithrombotic therapy for patients with high bleeding risk

*Antithrombotic therapy might not be needed in patients with high bleeding after TAVR.*

## Study flow chart

Kobari and OCEAN-SHD. *J Am Coll Cardiol Intv* 2023.



# Ongoing randomized control trials from OCEAN-TAVI registry

*Study proposal*



## NAPT trial

Non-Antithrombotic therapy after Transcatheter aortic valve implantation - trial

No antithrombotic therapy

1. Cardiovascular event &
2. Leaflet thrombosis &
3. QOL

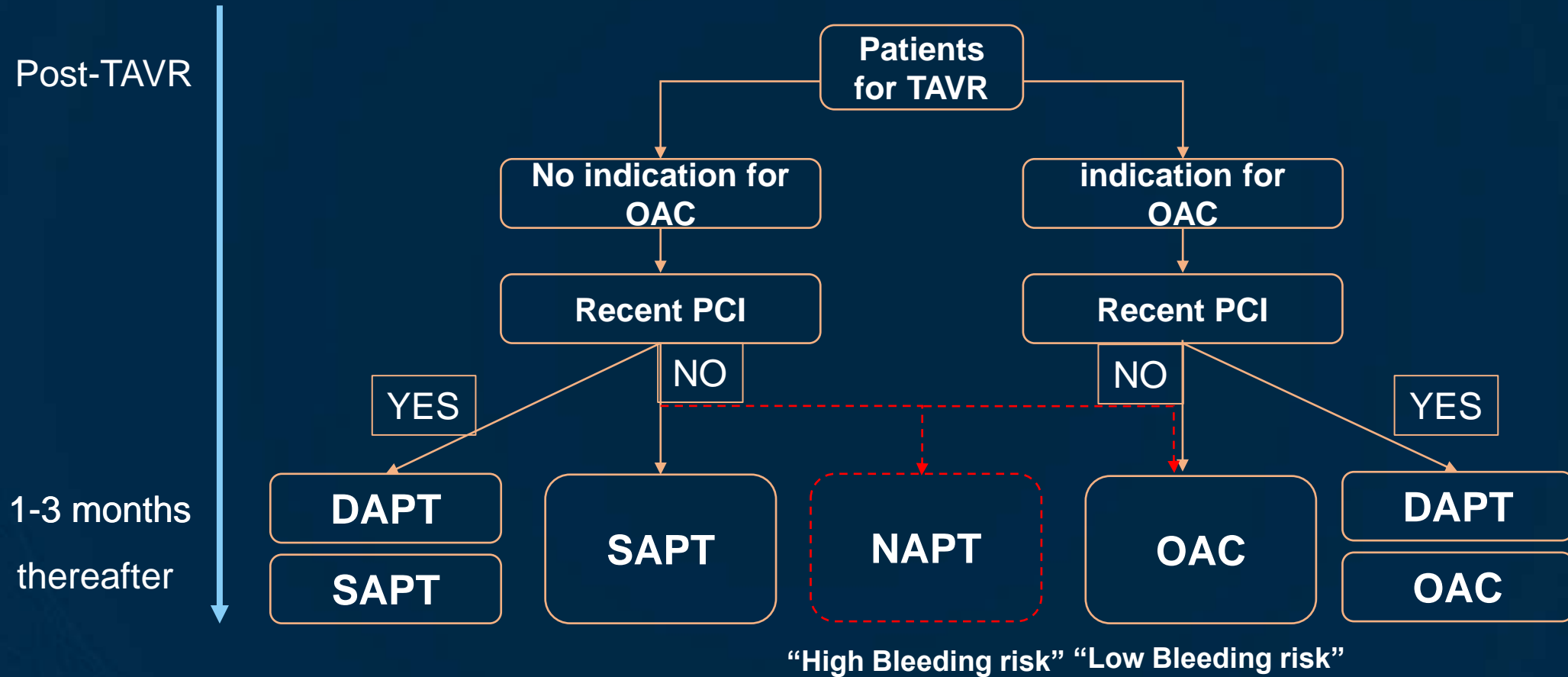
**Exclusion:**

Procedural complications  
&  
Indication for SAPT

SAPT

# Summary of recommendations

## Current practice and Future practice



—————> “Current” practice

- - - - -> “Future” practice?

# Conclusion

- SAPT is recommended for patients without indication for OAC
- OAC is recommended for patients with indication for OAC.
- Routine use of OAC for the prevention of the leaflet thrombosis is not advised.
- OAC may still play a role in reducing SVD.
- Further research is needed to establish an optimal antithrombotic regimen for this procedure.