TCTAP 2024 Newspaper

April 25 (Thu) - 27 (Sat), 2024

Seung-Jung Park, MD

Asan Medical Center,
Korea (Republic of)

Welcome

“Begin the New Journey with TCTAP 2024! TCTAP’s Next Chapter Unfolds Today”

Welcome aboard to TCTAP’s new journey! Our story will unfold in the new city of Incheon, and we are filled with excitement for the precious opportunities that lie ahead.
TCTAP has always been committed to providing a comprehensive program for attendees, and this year will be no exception. With an array of engaging sessions from cutting-edge lectures to interactive discussions, we aim to provide an in-depth learning experience that meets the diverse and inspiring needs of our attendees.
Beyond the enriching educational content, TCTAP promises to offer a perfect ambiance for networking. We look forward to spending enjoyable moments together over the three-day course, forging new connections and strengthening existing ones.
Thank you once again for embarking on this thrilling journey with us. Together, let us make TCTAP a truly memorable and rewarding experience for all.

Live Case Demonstrations from 10 World-Renowned Medical Centers

The case demonstrations will be streamed live from leading medical centers around the world including Korea, China, Japan, Taiwan, France, and the United States. Keep an eye out to witness firsthand the treatment of diseases by skilled operators and to deepen your an understanding of the latest procedural techniques for practical applications.

TCTAP Hot Topics

Discover diverse viewpoints from renowned experts in interventional cardiology, as they shed light on the most contentious key topics in the field. This year’s Hot Topics session will cover MedTech Innovation, Imaging & Physiology, Vulnerable Plaque, Antithrombotics, Complex PCI, TAVR, Mitral & Tricuspid, EVAR, TEVAR, and Peripheral Interventions.

Late-Breaking Clinical Trials in 2024 & Clinical Findings from the Asan Medical Center, Korea

In the Clinical Science session, renowned cardiologists from Asan Medical Center and medical institutions around the world will come together for fascinating lectures and debates. Explore the fresh, groundbreaking insights derived from the State-of-the-art (SOTA) clinical research findings.

TCTAP Workshops

Throughout Day 1 of TCTAP 2024, this course will provide the chance to acquire practical advice with tips & tricks from World-renowned experts. Participate in meaningful discussions and connect with colleagues to enrich your expertise and capabilities.

TCTAP Award Ceremonies: The 14th Master of the Masters Award & The 11th Best Young Scientist Award

The excitement surrounding the Master of the Masters Award intensifies every year, as the anticipation builds over who will be bestowed with this esteemed accolade. Join us at the Main Arena on Day 2 to catch the unveiling of the 14th Master with a captivating lecture. Moreover, stay tuned for the 11th Best Young Scientist Award, designed to honor promising mid-level clinical investigators who are poised to become future leaders in cardiovascular medicine.

Partnership Sessions with International Societies and Meetings

TCTAP 2024 will be accompanied by 10 international partnership societies and conferences, offering our global audience valuable insights. Dive into the excellence of our collaboration sessions and encounter the world-class program exclusively at TCTAP.

TCTAP 2024 WECAST

Tune in Virtually!

* Contents from Presentation Room 1 will be available only, on April 25-27

Thursday, April 25, 2024

	Main Arena	Valve & Endovascular Theater	Presentation Room 1	Presentation Room 2	Abstract Zone	Case Zone I–III
07:30						
08:00						
08:30						
09:00						
09:30						
10:00	Live Case LM & Complex PCI				Moderated Abstract Competition	Moderated Complex Case Competition 1,2,3
10:30		CTO-PCI: To Treat, or Not To Treat	TAVR: Key Issue in 2024	European Bifurcation Club		
11:00						
11:30	Live Case Complex TAVR		Mitral TEER			
12:00						
12:30						
13:00	Lunchtime Activities					
13:30						
14:00	Live Case CTO		Coronary Imaging & Physiology: Updated Concepts and Issues	HKSTENT	Moderated Abstract Competition	Moderated Complex Case Competition 1,2,3
14:30		Left Main and Multi-Vessel Diseases: Updated Concept and Treatment		Singapore Live		
15:00			Antithrombotic Hot Issues in ACS/PCI			
15:30				ISIC		
16:00	Live Case Complex PCI					
16:30		New Concept of Bifurcation PCI	Evolving PCI Devices: Coronary DES, BRS, and DCB			
17:00						
17:30						
18:00						
18:30						
19:00						
19:30						

Friday, April 26, 2024

	Main Arena	Valve & Endovascular Theater	Presentation Room 1	Presentation Room 2	Room 115	Room 118	Abstract Zone	Case Zone I–III
07:30	Meet the Experts Over Breakfast							
08:00								
08:30	Live Case Left Main	Live Case EVAR	Intracoronary Imaging: New Insights					
09:00								
09:30	Opening of TCTAP 2024 & Keynote Lectures							
10:00	TCTAP "Master of the Masters" Award 2024							
10:30	TCT	Live Case TEVAR, Peripheral	CCT					
11:00								
11:30								
12:00								
12:30								
13:00	Lunchtime Activities							
13:30								
14:00	Vulnerable Plaque Treatment 2024	Live Case TEER	MedTech Innovation				Moderated Abstract Competition	Moderated Complex Case Competition 1,2,3
14:30								
15:00	Live Case Complex PCI		Interventional Heart Failure Treatment	Coronary Physiology: New Insights				
15:30		Live Case Valve-in-Valve, Complex TAVR						
16:00								
16:30			All About New Data of Antithrombotics					
17:00								
17:30								
18:00								
18:30	Gala Evening							
19:00	*Invitation only							
19:30								

Saturday, April 27, 2024

	Main Arena	Valve & Endovascular Theater	Presentation Room 1	Presentation Room 2	Room 115	Abstract Zone	Case Zone I–III
07:30	Meet thew Experts Over Breakfast						
08:00							
08:30	Live Case CTO		Late-Breaking Clinical Trials 2024	Best Clinical Trials from Abstracts			
09:00		TAVR: Future Perspective					
09:30	All About Tips & Tricks for Complex PCI		All About New Data from Asan Medical Center	Best Young Scientific Award		Moderated Abstract Competition	Moderated Complex Case Competition 1,2,3
10:00							
10:30		Evolution of Mitral and Tricuspid Intervention		Tokyo Valve	CIAT		
11:00							
11:30	Live Case LM & Bifurcation		Ongoing Trials from Asan Medical Center		TCT India		
12:00		Live Case Pure AR		TTT			
12:30							
13:00	KCTA Symposium	Lunchtime Activities					
13:30							
14:00		EVAR, TEVAR and Peripheral Interventions	Challenging Complex Case Competition 1	Challenging Complex Case Competition 2			
14:30							
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19:30							

General Information

Shuttle Bus

During the conference dates, free shuttle buses will be operating between the venue and the nearby hotels located in Songdo. Please note that shuttle buses only stop at few hotels, not for all hotels in Songdo.
Visit the **CVRF Booth** or **Info & Coat Room** for more information.

Certificate of Attendance

The Certificate of Attendance for TCTAP 2024 is distributed along with the registration badge. Please check the backside of your badge.

Lounge / E-Science Station

Lounge
- Exhibition 1, Grand Ballroom, Level 2
- Exhibition 2, Premier Ballroom, Level 2
- CVRF Booth, Premier Ballroom Lobby, Level 2

E-Science Station
- Grand Ballroom Lobby, Level 2
- Premier Ballroom Lobby, Level 2

Registration / Coat and Luggage

Location: Grand Ballroom Lobby, Level 2
Opening Hours
- Thursday, April 26: 8:00 AM ~ 6:00 PM
- Friday, April 27: 6:30 AM ~ 6:00 PM
- Saturday, April 28: 6:30 AM ~ 5:40 PM

Information Desk

If you have any inquiries, please visit the information desk.
- **CVRF Booth**, Premier Ballroom Lobby, Level 2
- **Info & Coat Room**, Grand Ballroom Lobby, Level 2
- **Registration Booth**, Grand Ballroom Lobby, Level 2

Partnership Session With International Societies and Meetings

Thursday, April 25

Presentation Room 2, Level 1

European Bifurcation Club @ TCTAP 2024
Co-organized by European Bifurcation Club
11:00 AM ~ 12:30 PM

HKSTENT @ TCTAP 2024
Co-organized by HKSTENT
2:00 PM ~ 3:00 PM

Singapore Live @ TCTAP 2024
Co-organized by Singapore Live
3:00 PM ~ 4:00 PM

ISIC @ TCTAP 2024
Co-organized by ISIC
4:00 PM ~ 5:00 PM

Friday, April 26

Main Arena, Level 2

TCT @ TCTAP 2024
Co-organized by TCT
10:40 AM ~ 12:40 PM

Presentation Room 1, Level 1

CCT @ TCTAP 2024
Co-organized by CCT
10:30 AM ~ 11:30 AM

Saturday, April 27

Presentation Room 2, Level 1

Tokyo Valves @ TCTAP 2024
Co-organized by Tokyo Valves
10:40 AM ~ 11:40 AM

TTT @ TCTAP 2024
Co-organized by TTT
11:40 AM ~ 12:40 PM

Room 115, Level 1

CIAT @ TCTAP 2024
Co-organized by CIAT
10:40 AM ~ 11:40 AM

TCT India @ TCTAP 2024
Co-organized by TCT India
11:40 AM ~ 12:40 PM

COMPLEX CORONARY INTERVENTION
Technical Forum: "A to Z" 3rd Edition

Get Free book at CVRF booth during TCTAP2024!

TCTAP Wrap-up Interviews

The key topics of TCTAP 2024 will be under active discussion by prominent panelists. Following each session, TCTAP 2024 Wrap-up Interviews are running at an open studio for 20 minutes from April 25 to 27.

The interviews aim to convey and exchange specialized knowledge and experience of cardiology experts. Do not miss this opportunity to learn the insight of expertise in cardiovascular medicine.

Thursday, April 25

Left Main, Multi-Vessel Diseases
4:00 PM ~ 4:20 PM
- Moderators: Sripal Bangalore, Seung-Jung Park
- Interviewees: Shamir R. Mehta, Bruno Scheller, Jung-Min Ahn

Bifurcation PCI
6:00 PM ~ 6:20 PM
- Moderators: Mamas Mamas, Bon-Kwon Koo
- Interviewees: Jung-Min Ahn, Adrian P. Banning, Niels Ramsing Holm

Friday, April 26

Coronary Imaging
12:50 PM ~ 1:10 PM
- Moderators: Myeong-Ki Hong, Gary S. Mintz
- Interviewees: Evelyn Regar, Ziad A. Ali, Joo-Yong Hahn

Coronary Physiology
5:50 PM ~ 6:10 PM
- Moderators: Jung-Min Ahn, Nico Pijls
- Interviewees: William F. Fearon, Bon-Kwon Koo, Carlos Collet

Vulnerable Plaque
3:30 PM ~ 3:50 PM
- Moderators: Duk-Woo Park, Evelyn Regar
- Interviewees: Akiko Maehara, Ik-Kyung Jang, Takashi Kubo

Antithrombotics
6:15 PM ~ 6:35 PM
- Moderators: Dominick J. Angiolillo, Duk-Woo Park
- Interviewees: Tullio Palmerini, Pieter Smits

Saturday, April 27

TAVR
11:00 AM ~ 11:20 AM
- Moderators: David Joel Cohen, Eberhard Grube
- Interviewees: Philippe Garot, Jung-Min Ahn, Nicolas Van Mieghem

Mitral, Tricuspid Valve Therapy
12:20 PM ~ 12:40 PM
- Moderators: Jung-Sun Kim, Cheung Chi Simon Lam
- Interviewees: William A. Gray, Do-Yoon Kang, Shunsuke Kubo

Complex PCI
11:40 AM ~ 12:00 PM
- Moderators: Joo-Yong Hahn, Mamas Mamas
- Interviewees: Akiko Maehara, Michael S. Lee, Myeong-Ki Hong

EVAR, TEVAR, Peripheral
3:40 PM ~ 4:00 PM
- Moderators: Donghoon Choi, Lawrence A. Garcia
- Interviewees: William A. Gray, Young-Guk Ko

Live Case Transmission from World-Renowned Medical Centers

Thursday, April 25

Asan Medical Center, Korea
10:00 AM ~ 11:20 AM @ Main Arena, Level 2 / Left Main & Complex PCI
11:20 AM ~ 12:40 PM @ Main Arena, Level 2 / Complex TAVR

Mie Heart Center, Japan
2:00 PM ~ 2:50 PM @ Main Arena, Level 2 / CTO

Severance Hospital, Korea
2:50 PM ~ 3:40 PM @ Main Arena, Level 2 / CTO

National Taiwan University Hospital, Taiwan
3:40 PM ~ 5:00 PM @ Main Arena, Level 2 / Complex PCI

Friday, April 26

Asan Medical Center, Korea
8:40 AM ~ 9:20 AM @ Main Arena, Level 2 / Left Main

Severance Hospital, Korea
8:40 AM ~ 9:30 AM @ Valve & Endovascular Theater, Level 2 / EVAR

Toyohashi Heart Center, Japan
10:30 AM ~ 12:10 PM @ Valve & Endovascular Theater, Level 2 / TEVAR, Peripheral

Taipei Veterans General Hospital, Taiwan
2:00 PM ~ 3:00 PM @ Valve & Endovascular Theater, Level 2 / TEER

Asan Medical Center, Korea
3:00 PM ~ 3:50 PM @ Valve & Endovascular Theater, Level 2 / TEER

Fuwai Hospital, China
3:30 PM ~ 5:10 PM @ Main Arena,, Level 2 / Complex PCI

Clinique Pasteur Toulouse, France
4:00 PM ~ 5:20 PM @ Valve & Endovascular Theater, Level 2 / Valve-in-Valve, Complex TAVR

Saturday, April 27

Minneapolis Heart Institute, USA
8:30 AM ~ 9:20 AM @ Main Arena, Level 2 / CTO

Asan Medical Center, Korea
11:30 AM ~ 12:20 PM @ Main Arena, Level 2 / Left Main & Bifurcation

Nanjing First Hospital, China
12:00 PM ~ 12:40 PM @ Valve & Endovascular Theater, Level 2 / Pure AR

50-Years Long Journey of Coronary Physiology: From Humble To Great

Nico Pijls
Catharina Hospital, Netherlands

The field of coronary physiology has undergone a remarkable journey over the past half-century, evolving from rudimentary understandings to sophisticated methodologies that serve as pillars in cardiovascular medicine. Historically, research on coronary flow reserve began with Gould in 1974. Thereafter, with the study of Gruntzig's coronary angiography in 1976 and the use of Kern's Doppler wire in 1990, measurement of coronary blood flow became possible.

In the early 1990s, studies by Pijls and De Bruyne (1993) laid the experimental groundwork for modern coronary physiology. Their work elucidated the use of pressure-derived indices to assess severity of coronary stenosis, marking a significant departure from traditional angiographic assessments. Through meticulous experimentation, the feasibility of measuring fractional flow reserve (FFR) was demonstrated to evaluate the functional significance of epicardial lesions. This provided valuable physiological insights that transcended the limitations of anatomical imaging alone. These foundational studies paved the way for the widespread adoption of FFR in coronary physiology (**Figure 1**).

Validation of FFR as a clinical tool came to fruition through landmark trials such as the FAME (Fractional Flow Reserve Versus Angiography for Multivessel Evaluation) series. Notably, the FAME 2 trial, led by De Bruyne et al. (2012), provided compelling evidence for the superiority of FFR-guided percutaneous coronary intervention (PCI) over medical therapy alone in patients with stable coronary artery disease (CAD). By integrating physiological assessments with routine clinical practice, FFR-guided strategies not only improved patient outcomes, but also reduced the rate of unnecessary revascularization procedures, thereby optimizing resource utilization and healthcare costs.

While FFR addressed the functional significance of epicardial stenosis, elucidating microcirculatory function emerged as a critical frontier in coronary physiology. Fearon et al. (2003) introduced the index of microcirculatory resistance (IMR), offering clinicians a comprehensive assessment of coronary physiology beyond the epicardial vessels. By quantifying the resistance within the microcirculation, IMR provided valuable insights into microvascular health and dysfunction, thereby enabling tailored therapeutic approaches in patients with suspected microvascular angina. This paradigm shift towards a more holistic understanding of coronary physiology underscored the intricate interplay between epicardial and microvascular factors within the pathophysiology of CAD, signaling a new era in precision medicine.

Innovations in coronary physiology continued to flourish with the development of adenosine-independent indices of stenosis severity. Studies by Davies (2012) introduced a novel index based on coronary wave-intensity analysis, offering a non-invasive alternative to adenosine-induced hyperemia. By leveraging intrinsic waveforms within the coronary circulation, this index provided clinicians with a robust tool for assessing the severity of lesions with enhanced accuracy and feasibility. This breakthrough not only obviated the need for adenosine administration, but also expanded the armamentarium of coronary physiology, empowering clinicians with versatile tools for tailored patient care (**Figure 2**).

Recent advancements in measurements of absolute coronary flow and microvascular resistance represent the pinnacle of progress in coronary physiology. Pijls and De bruyne (2021) elucidated the measurement of absolute coronary flow and microvascular resistance using thermodilution techniques, offering clinicians unprecedented insights into coronary hemodynamics. By quantifying these parameters, clinicians were able to obtain a comprehensive understanding of coronary physiology, enabling personalized treatment strategies tailored to individual patient characteristics. This shift towards precision medicine heralds a new frontier in CAD management, where therapies are tailored not only to anatomical lesions but also to physiological nuances, thereby optimizing outcomes and enhancing patient care.

The journey of coronary physiology over the past 50 years has been characterized by remarkable progress and transformative innovations. From pioneering experiments to the latest advancements, coronary physiology has evolved from a theoretical concept to a cornerstone of cardiovascular medicine. Currently, various measurements of coronary physiology provide complete and accurate description of the circulation of the heart. In the future, even further understanding of coronary physiology may be possible, through non-invasive measurements.

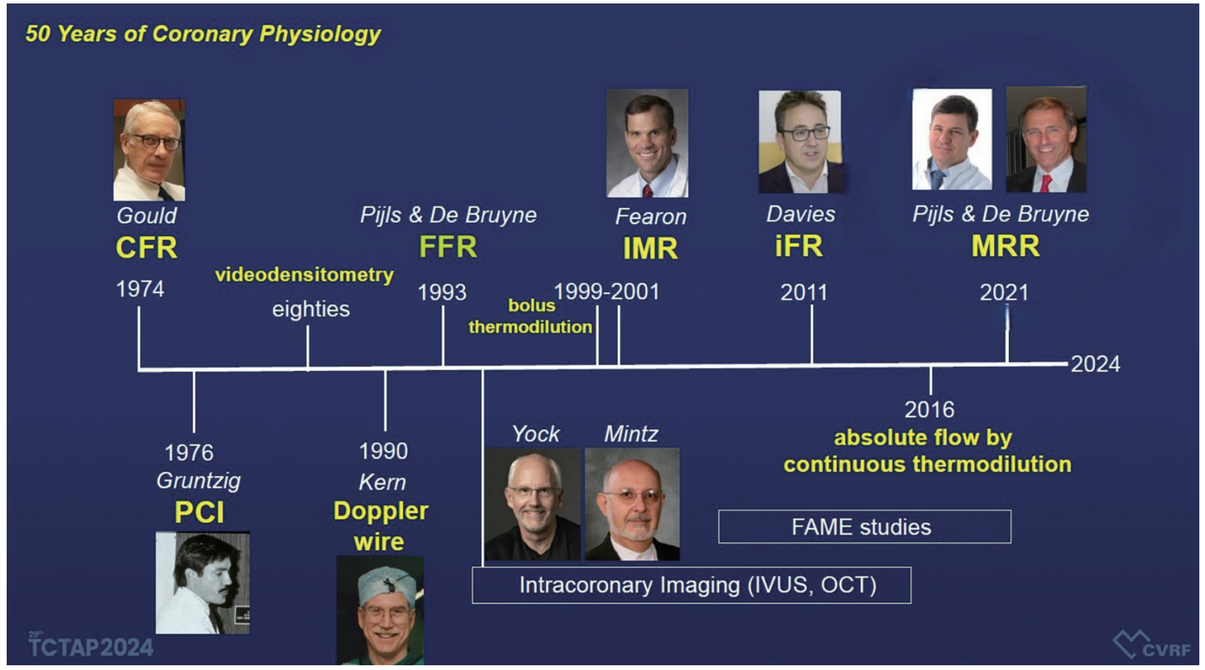


Figure 1. Major contributions in understanding coronary physiology

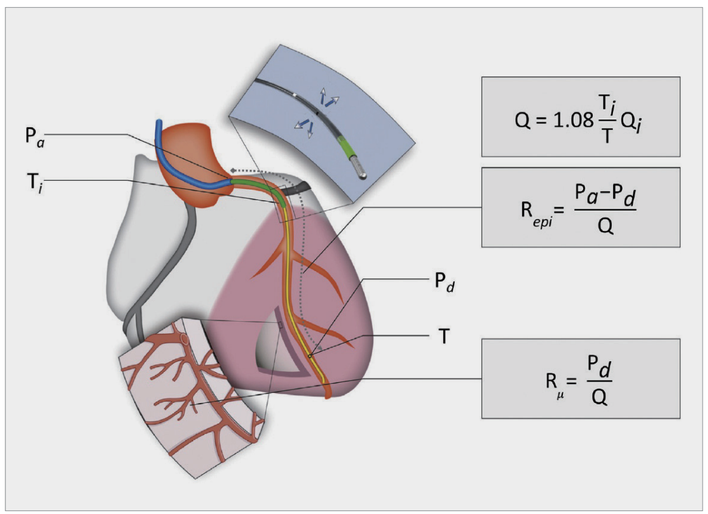


Figure 2. Physiological framework of coronary circulation

TCTAP WORKSHOP

Thursday, April 25
10:30 AM ~ 11:25 AM

Presentation Room 1, 1F

TAVR-in-TAVR: The Next Challenging Issue in Lifetime TAVR Management

Philipe Garot
Institut Cardiovasculaire Paris-Sud, France

Compared to surgical aortic valve replacement (SAVR), there is an increasing use of transcatheter aortic valve replacement (TAVR) in patients over 80 years old, as well as in those aged 65-80 years in western countries. In patients with a remaining life-expectancy of over 10 years, a considerable number of transcatheter heart valves (THVs) are expected to fail, requiring repeat intervention. According to a multicenter registry, surgical explantation after TAVR failure was associated with an overall mortality of almost 15% at 30 days and 30% at 1 year follow-up. Contrastingly, redo-TAVR is relatively safe and effective. Underexpansion of THVs may lead to hypoattenuated leaflet thickening (HALT) and early dysfunction with elevated gradients. In these patients, a staged post-dilation of the THVs may improve hemodynamics and delay a redo-TAVR procedure.

Coronary access may be impaired after a redo-TAVR procedure. Factors impacting coronary access may be anatomical, or related to the device and the procedure. The design of the index TAVR implant is associated with a different risk of sinus sequestration and coronary obstruction. The risk of sinus sequestration increases up to 91% in balloon-expandable valve (BEV)-in-self-expandable valve (SEV) and 75% in SEV-in-SEV, and in these cases, leaflet interventions should be considered as a prerequisite for redo-TAVR (**Figure 1**).

The optimal THV design and implantation technique for redo-TAVR are poorly understood. In the case of redo-TAVR, the leaflets of the failed THV may create a "tube graft," where the index THV leaflets can be jailed between the two THV frames. This can create a neoskirt of tissues from the failed THV inflow to the top of the jailed leaflet, which may limit subsequent coronary access and flow. The higher the second THV, the taller the neoskirt, with a higher risk of sinus sequestration.

The position of both the index and the second THV are crucial in avoiding sinus sequestration. In some patients, the second implant must be lower to avoid a tall neoskirt, causing a significant leaflet overhang in return. The width of the sinuses of Valsalva is a key for a reasonable valve-to-coronary (VTC) distance, which may be compromised by THV flaring, second implant depth and valve canting.

The risk of coronary obstruction after redo-TAVR is strongly related to the index TAVR design, the implant depth of the index THV and commissural alignment of both the index and redo-THV, which can help avoiding coronary obstruction and facilitate leaflet interventions. Also, the index failed THV may expand after redo-TAVR, and this should be considered when determining the VTC distance.

Late-Breaking Clinical Trials 2024 & All About Research from Asan Medical Center

April 27 @ Presentation Room 1, Level 1

Late-Breaking Clinical Trials 2024
8:30 AM - 10:03 AM

- ILUMIEN IV Trial
- OCTOBER Trial
- OCTIVUS Trial
- PREVENT Trial
- BASKET-SMALL 2
- Comparison Of Intravascular Ultrasound-guided Versus Angiography-guided Angioplasty For The Outcomes Of Drug-coated Balloon In The Treatment Of Femoropopliteal Artery Disease
- RELIEVE-HF Trial
- SMART Trial

All About New Data from Asan Medical Center
10:05 AM - 11:25 AM

- Left Main TLR : Incidence, Predictors, and Prognostic Impact
- Left Atrial Venting vs. Conventional LV Decompression in VA-ECMO: The EVOLVE-ECMO Trial
- Optimal Minimal Stent Area in Left Main Upfront 2-stent PCI
- Severe AS with low valve calcium score: Different Prognosis?
- OCT vs. IVUS in Bifurcation PCI: Analysis from the OCTIVUS Trial
- Impact of Intravascular Imaging After PCI or CABG in Multivessel Disease: The BEST Extended Follow-Up Study
- Routine Stress Testing After PCI in DM Patients: Analysis from the POST-PCI Trial
- Routine Stress Testing After Left Main or Multivessel PCI: Analysis from the POST-PCI Trial

Ongoing Trials from Asan Medical Center
11:30 AM - 12:40 PM

- TAILORED-CHIP Trial
- ENAVO-TAVR Trial
- DEFINE-DM Trial
- FATE-MAIN Trial
- EPIC-CAD Trial
- PROTECT-HBR Trial
- ASSURE-DES Trial
- VARIANT-ICD Trial

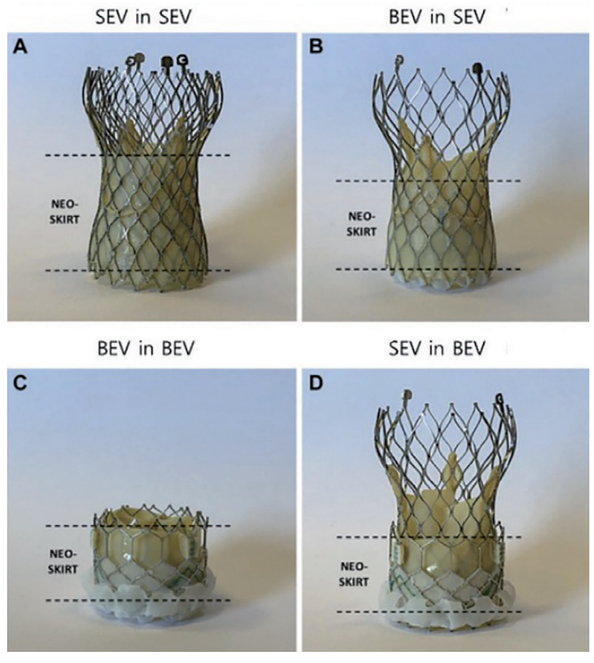


Figure 1. Different THV-in-THV combinations and the neoskirt heights

TCTAP WORKSHOP

Thursday, April 25
4:50 PM ~ 5:50 PM

Presentation Room 1, 1F

DCB Use in Your PCI Practice: Adjunctive Therapy or Standard of Care?

Bruno Scheller
University of Saarland, Germany

Despite advancements in interventional procedures, that began with the development of balloon angioplasty by Andreas Grüntzig in 1977, stent-related adverse events occur in approximately 2-3% of cases every year. DCB was developed based on its unique, "leave nothing behind" philosophy. Since co-developing the first DCB with Ulrich Speck in the late 1990s, Sheller's innovations have significantly advanced the field of interventional cardiology. DCBs are expected to reduce the number and length of stents without causing stent-related adverse events, and much research is currently being conducted.

Efficacy of DCBs compared to DES

At the conference, recent studies will be presented, which demonstrate that DCBs are equivalent to drug-eluting stents (DES) for stent restenosis when appropriate lesion preparation is performed. Based on this research, DCBs were recommended as an option for the treatment of in-stent restenosis (ISR) in the 2018 European Society of Cardiology (ESC) Guideline. On the contrary, the use of DCB for de novo lesions of small coronary artery lesions has not yet been included in the guidelines, due to the lack of data. The benefits of DCB application in de novo vessels will be introduced through studies such as the BASKET-SMALL 2 trial and DEBUT trial. In the BASKET-SMALL 2 trial, which investigated non-inferiority for treatment with DCB compared with DES in patients undergoing PCI for de novo lesions in small coronary arteries, 8 patients presented with a complete thrombotic vessel occlusion after undergoing stent implantation compared to none after a DCB intervention. Meanwhile, there was no difference in the estimates of the cumulative probabilities of major adverse cardiac events (MACE) in the two study groups over 3 years.

Optimal lesion preparation has been mentioned as the most important factor in applying DCB strategy. It is necessary to assess whether lesion preparation for DCB is adequate. DCB may be a good alternative to DES for cases where the residual stenosis is ≤ 30% and fractional flow reserve (FFR) is > 0.8, with absence of flow limiting dissection during the lesion preparation process (**Figure 1**). The choice of DCB and DES should be determined based on whether optimal angiographic findings are obtained after lesion preparation.

Additional strengths of DCB

Post-procedural late lumen enlargement (LLE) and vasomotion will be presented as additional strengths of DCB. According to a study assessing intravascular geometric and compositional characteristic changes induced by DCB in de novo lesions, LLE after DCB treatment for de novo coronary artery disease (CAD) was caused by both vessel enlargement and plaque regression. Similarly, according to a study which compared coronary vasomotion in patients with small CAD treated with DCB versus DES, vasoconstriction after acetylcholine infusion in the peri-treated region was less pronounced in the DCB arm than in the DES arm. This suggests that endothelial function in treated coronary vessels could be better preserved by DCB than by new-generation DES. In case of patients with multivessel CAD, the application of DCB provided benefits compared to utilizing DES only with regard to the risk of MACE over 2 years.

Due to these strengths and developments in DCB, the adoption rate of DCB is gradually increasing worldwide. According to the coronary DCB to DES ratio in PCI worldwide, in 2020 this ratio was 1:25 in Europe, which has increased to 1:4 in 2023. This trend reflects growing confidence in the efficacy and safety of DCBs due to successful clinical outcomes and growing support from the medical community.

The presentation will highlight the historical advancements and current achievements of DCB technology, as well as its potential to revolutionize cardiac care. Based on the studies presented, it can be expected that DCB will develop into a standard of care rather than simply adjunctive therapy. As the field seeks less invasive and more effective treatments, ongoing research, including Scheller's, and advocacy for DCB will likely play a pivotal role in setting new standards in cardiovascular medicine.

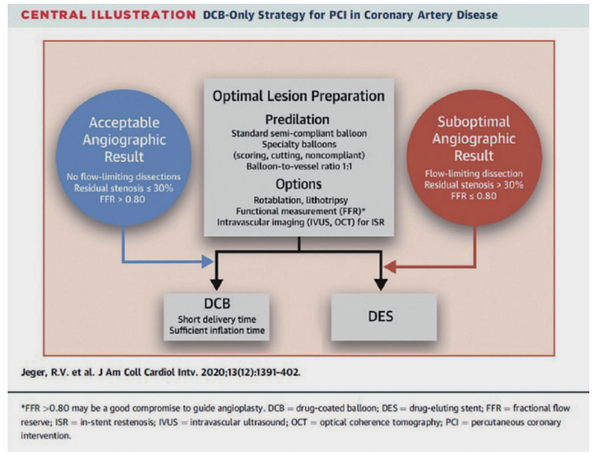


Figure 1. DCB-only strategy for PCI in CAD

TCTAP WORKSHOP

Thursday, April 25
3:40 PM ~ 4:48 PM

Presentation Room 1, 1F

What are Novel and Future Antithrombotic Drugs in ACS and PCI? Are There Still Unmet Needs?

Roxana Mehran
Icahn School of Medicine at Mount Sinai, USA

Individualization of antithrombotic therapy

Deciding on the appropriate antithrombotic therapy after percutaneous coronary intervention (PCI) requires a multifaceted approach that takes into consideration various patient factors, clinical presentations, comorbidities, concomitant medications, and procedural aspects. The ultimate goal is to strike a delicate balance between reducing ischemic events and minimizing bleeding risk.
When tailoring antithrombotic therapy for individual patients, it's essential to assess their unique characteristics and weigh the potential benefits against the risks. One crucial aspect in optimizing antithrombotic therapy post-PCI is risk stratification. Several tools and scoring systems are available to help clinicians accurately assess bleeding and ischemic risks. These include a validated scoring system, platelet function testing and genetic testing, which can provide valuable insights into antiplatelet responsiveness.
The journey towards determining the optimal duration of antiplatelet therapy post-PCI has been marked by significant milestones, from the early focus on preventing thrombosis to the growing recognition of bleeding risks associated with antiplatelet use. Recent years have witnessed a surge in studies exploring the timing and duration of dual antiplatelet therapy (DAPT) cessation, leading to more nuanced approaches to post-PCI management.
Emerging strategies for managing acute coronary syndrome (ACS) patients offer new avenues for tailoring antithrombotic therapy. These strategies encompass P2Y12 monotherapy, de-escalation approaches and dual pathway inhibition, each with its unique considerations and potential benefits. Recent randomized controlled trials (RCTs) have provided valuable insights into the efficacy and safety of novel antithrombotic strategies.
In the TWILIGHT trial, conducted among 9,000 high-risk PCI patients, participants were administered ticagrelor monotherapy for 1 year, following a 3-month period of DAPT with ticagrelor and aspirin. The trial aimed to compare the outcomes between ticagrelor monotherapy and DAPT with ticagrelor and aspirin. The results revealed a 34% reduction in the bleeding risk in the ticagrelor monotherapy group compared to the DAPT group, specifically in Bleeding Academic Research Consortium (BARC) 2, 3 or 5 events. However, no significant differences were observed in the incidence of death, myocardial infarction (MI) or stroke, which were set as the ischemic outcome endpoints.

De-escalation strategies and P2Y12 monotherapy

Implementing P2Y12 monotherapy for all patients requires careful consideration of various factors, including ischemic and bleeding risk, comorbidities, and concomitant medications. While certain patient subgroups, such as those with ACS, complex PCI, or diabetes may benefit from intensified antiplatelet therapy, others, such as those on oral anticoagulants or at high bleeding risk, may require more conservative approaches.
In the TWILIGHT-ACS trial, which enrolled 5,739 patients with ACS, ticagrelor monotherapy was compared to the DAPT with ticagrelor and aspirin after 3 months. The results showed that ticagrelor monotherapy reduced bleeding events by 53% while showing no significant difference in ischemic outcomes. In the STOPDAPT-2 ACS trial, patients who underwent PCI due to ACS were compared after 1 month, where one group received clopidogrel monotherapy and the other group continued with DAPT. The outcomes were assessed over a 5-year period, revealing no significant differences in the bleeding outcomes between the two groups. The ischemic outcomes were also non-inferior. Similarly, in the STOPDAPT-3 trial, patients undergoing PCI were compared between prasugrel monotherapy and DAPT. Results showed no significant differences in bleeding or ischemic endpoints between the two treatment groups.
De-escalation strategies offer additional opportunities for personalized therapy, by incorporating platelet function testing, genetic testing, dose adjustments, or changing to clopidogrel. A meta-analysis of RCTs, including TROPICAL-ACS, POPular Genetics, HOST-REDUCE POLYTECH-ACS, and the TALOS-AMI trial, examining the effects of four de-escalation strategies, reveals compelling findings. The analysis demonstrated that patients receiving de-escalation DAPT experienced a reduction, not only in bleeding events, but also in ischemic events compared to those on standard DAPT.

Potential for dual pathway inhibition

Dual pathway inhibition aims to address the residual risk of major adverse cardiovascular event (MACE), which remains at approximately 3% despite the use of antiplatelet agents alone. The rationale behind this approach is to further reduce this risk by inhibiting the coagulation pathway in addition to antiplatelet therapy. Notably, factor XI inhibition has garnered attention for its potential to decrease thrombosis without interfering with hemostasis. Clinical trials utilizing factor XI inhibitors are currently underway in various patient populations, including those with atrial fibrillation (AF), stroke, end-stage renal disease (ESRD), or ACS. In the PACIFIC phase 2 trial, the addition of asundexian to DAPT did not significantly increase bleeding through dose-dependent XIa inhibition. However, no clear benefit was observed in terms of reducing MACE. Therefore, a larger trial is required to establish the safety and efficacy of asundexian 50mg. Meanwhile, the LIBREXIA program, which employs milvexian, is conducting a large-scale phase 3 trial comparing the safety and efficacy of milvexian in patients with secondary stroke prevention, ACS or AF.
Furthermore, ongoing areas of research that require attention include triple therapy, management of thrombotic risk despite the use of antiplatelet therapy, and left ventricular thrombus management, especially in patients who underwent recent PCI or are facing impending surgery. These areas underscore the need for additional investigation to enhance our understanding and management of thrombotic complications in these patient populations.

HOT TOPICS

Friday, April 26
4:40 PM ~ 6:06 PM

Presentation Room 1, 1F

Long-term DOAC Management of AF and Stable CAD: Expectations for the EPIC-CAD Trial After the AFIRE Trial

Gi-Byoung Nam
Asan Medical Center, Korea (Republic of)

Atrial fibrillation (AF) concurrent with coronary artery disease (CAD) presents as a common clinical scenario. Approximately 30% of AF patients are reported to have CAD, with around half of them requiring percutaneous coronary intervention (PCI) during their lifetime. Conversely, 5-8% of patients undergoing PCI have concurrent AF, necessitating oral anticoagulation (OAC). Managing antithrombotic therapy in AF patients undergoing PCI is complex, as anticoagulation is crucial for preventing AF-related embolic stroke, while antiplatelet therapy is essential for preventing stent thrombosis (ST). Finding a balance between ischemia prevention and bleeding risk is particularly challenging during the dynamic and unstable early post-PCI period. Traditionally, triple therapy (TT) of OAC plus dual antiplatelet therapy (DAPT) has been employed in recent decades. However, serious bleeding remains a significant obstacle with this approach. With the introduction of novel oral anticoagulants (NOACs) and subsequent large randomized clinical trials (RCTs), the duration of TT has been significantly reduced, typically confined to the hospital admission period. Extended TT (up to 1 month post-discharge) is recommended only in patients with high ischemic burden and low bleeding risk.

Antithrombotic management >6-12 months after PCI remains poorly understood. The incidence of ST is the highest (0.1-2.5%) in the first 30 days post-PCI and decreases over time (0.1-0.8%/year between 1-2 years). As bleeding risk remains high throughout the post-PCI period, and bleeding risk from combined anticoagulation and antiplatelet therapy is hierarchical, omitting antiplatelet agents 6-12 months after PCI has been proposed. Despite their plausibility, these recommendations lack validation from studies.

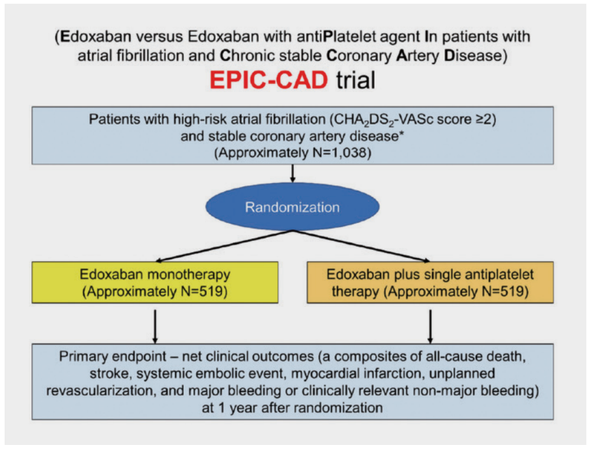


Figure 1. Main flow of the EPIC-CAD Trial

Recently, during 2018 and 2019, only two RCTs have been published. Optimizing Antithrombotic Care in Patients With Atrial Fibrillation and Coronary Stent (OAC-ALONE) trial was a prospective, multicenter, randomized, open-label, noninferiority trial comparing OAC alone with combined OAC and single antiplatelet therapy in patients with concurrent AF and stable CAD who had received coronary stents more than 1 year ago. The study was terminated prematurely due to slow patient enrollment, rendering it underpowered and inconclusive. Atrial Fibrillation and Ischemic Events with Rivaroxaban in Patients with Stable Coronary Artery Disease (AFIRE) trial aimed to investigate whether rivaroxaban monotherapy is noninferior to combination therapy of rivaroxaban plus an antiplatelet agent in patients with AF and stable CAD who had revascularization more than 1 year ago, or those with angiographically confirmed CAD not requiring revascularization. The trial was discontinued early due to increased mortality in the combination therapy group. Rivaroxaban monotherapy was found to be noninferior for efficacy and superior for safety in patients with AF and stable CAD.

Based on these trials, current guidelines recommend NOACs only for long-term anticoagulation in patients with AF and CAD. Meanwhile, for patients who require long-term anticoagulation treatment, research is still limited on the appropriate duration of combined antiplatelet therapy that can minimize the long-term risk of bleeding while also reducing ischemic events, such as ST. To provide further evidence on this issue, Gi-Byoung Nam, MD, and his team initiated the Edoxaban vs Edoxaban With antiPlatelet Agent In Patients With AF And Chronic Stable CAD (EPIC-CAD) trial to explore optimal antithrombotic therapy in patients with stable CAD and high-risk AF (**Figure 1**). The results of the EPIC-CAD trial are anticipated to provide additional insights into long-term antithrombotic management in these patients.

KCTA SYMPOSIUM

Saturday, April 27
12:45 PM ~ 5:10 PM

Main Arena

27th Annual Conference for Cardiovascular Nurse & Allied Professionals Session with TCTAP 2024

This year's TCTAP 2024 KCTA symposium will emphasize the latest findings and related theories, and case studies related to coronary bifurcation lesions, endovascular treatment options and TAVR, and complex PCI specifically tailored for nurses and technologists in the cardiovascular field.

Part 1: In the Imaging & Physiology session - Current Status and Position, We will explore the recent findings of research conducted in the field of Imaging & Physiology over the past year. we will also examine the definition of Physiology-guided optimal PCI and discuss the clinical outcomes of physiological assessment post-PCI.

Part 2: In Coronary Intervention Session - Knowledge Toolbox Our focus will be on treatment strategies for coronary bifurcation lesions. We will investigate methods to effectively resolve device entrapment during PCI procedures. Furthermore, we'll delve into considerations and techniques for Cardiac Catheterization in relation to valvular heart disease. Additionally, we'll analyze ECG examples to enhance our ability to differentiate between STEMI and non-STEMI presentations.

Part 3: Innovations in valve interventions session, We will explore the transseptal approach ViV technique as an alternative procedure for high-risk surgical patients with failed mitral bioprosthesis. We will also discuss devices and procedure plans more suitable for TAVR. Moreover, we will explore the step-by-step process of addressing complications arising from Trans femoral TAVR and alternative femoral approaches such as trans-carotid and trans-subclavian access.

Part 4: In the KCTA Nursing session, the Featured Lecture will focus on strategies for effective patient management. This session will cover the effective management of various complications that can arise during EVAR, TEVAR, and PCI procedures, as well as explore the safe use of contrast agents.

With the participation of numerous nurses and technologists, we anticipate this session to serve as a valuable opportunity for sharing and discussing knowledge and experiences.
We look forward to seeing you at the session.

Witness Presentations of Novel Findings at the Abstract & Case Competitions!

April 25-27 | Case Zone 1-3 / Abstract Zone, Exhibition 2, Level 2 | Presentation Room 1-2, Level 1

Recollect Your #TCTAPSmiles

TCTAP is turning 30 next year!
Celebrate the upcoming 30th anniversary by taking a special snapshot and recollecting your smiles & memories at the CVRF Booth.

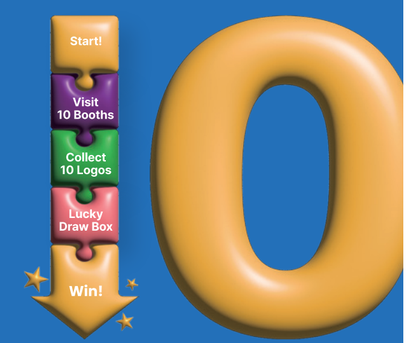
CVRF Booth, Premier Ballroom Lobby, Level 2

OPERATING HOURS

Thursday, April 25	8:00 AM ~ 6:00 PM
Friday, April 26	6:30 AM ~ 6:00 PM
Saturday, April 27	6:30 AM ~ 5:40 PM

Visit! 10 Exhibition Booths
Collect! 10 Logos
Get! The Special Gift

Collect 5 logos each from Exhibition 1 & Exhibition 2!



Exhibition 1, Grand Ballroom, Level 2
Exhibition 2, Premier Ballroom, Level 2
Lucky Draw Box & Winner Announcement: Main Gate of Exhibition 1
※ The Winner will be announced every 4 PM, from April 25 to 27.

HOT TOPICS

Friday, April 26
2:00 PM ~ 3:20 PM

Presentation Room 2, 1F

PREVENT Trial: Confirmative RCT of Preventive PCI for Vulnerable Plaques

Seung-Jung Park

Asan Medical Center, Korea (Republic of)

Published in the LANCET

Presented at the ACC 2024 LBCT

PREVENT Supports Early PCI for Vulnerable Plaques, with Reductions in MACE

At Transcatheter Cardiovascular Therapeutics Asia Pacific (TCTAP) 2024, a landmark study is to be presented, which was also published in The Lancet, providing compelling evidence supporting the efficacy of prophylactic percutaneous coronary intervention (PCI) to treat vulnerable plaques on top of optimal medical therapy (OMT) in reducing the incidence of serious cardiovascular (CV) events over a 2-year period. The findings support expanding PCI indications to encompass non-flow-limiting, high-risk vulnerable plaques, and will support a paradigm shift in the management of CV disease.

Key Insights from the PREVENT Trial

Preventive PCI or Medical Therapy Alone for Vulnerable Atherosclerotic Coronary Plaque (PREVENT) enrolled 1,606 patients at 15 centers in 4 countries who had non-flow-limiting vulnerable coronary plaques of > 50% stenosis and a negative fractional flow reserve (FFR) of > 0.80. The mean age of the patients was 64 years, and 27% were women. Vulnerable plaques were defined as lesions possessing at least two of these characteristics: a minimal lumen area (MLA) of less than 4.0 mm², a plaque burden of more than 70%, a lipid-rich plaque by near-infrared spectroscopy (NIRS) (defined as maximum lipid core burden index within any 4 mm pullback length [$_{max}$LCBI$_{4mm}$] >315), or a thin-cap fibroatheroma detected by radiofrequency intravascular ultrasonography (RF-IVUS) or optical coherence tomography (OCT) (**Figure 1**). Ultimately, 95% of patients in the trial were assessed by grayscale intravascular imaging, not newer, more sensitive imaging modalities.

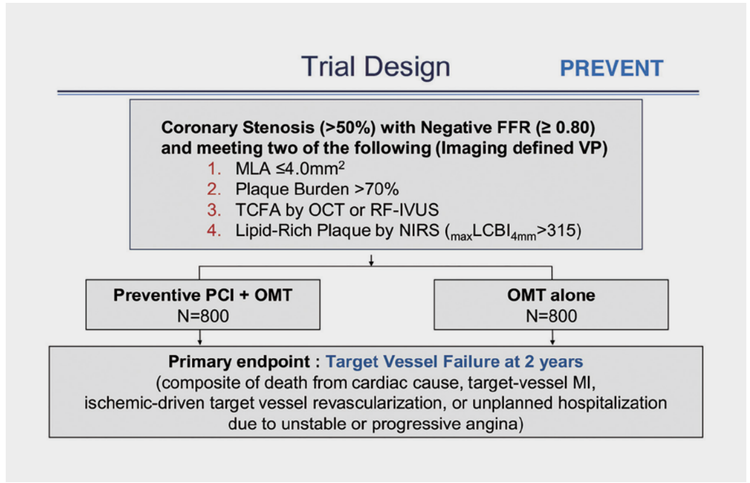


Figure 1. The PREVENT study design

Patients were randomly assigned to PCI plus OMT or OMT alone. Although the trial was initially designed to use bioresorbable vascular scaffolds, with their removal from the market, permanent metallic everolimus-eluting stents were used instead. As a result, in the PCI group, drug-eluting stents (DESs) were used in 67% and bioresorbable scaffold in 33%. Intravascular imaging was used in all cases to optimize stent or scaffold implantation.
More than 50% of patients in both groups were on high- or moderate-intensity statins plus ezetimibe during the follow-up period. The mean low-density lipoprotein (LDL)-cholesterol level in both groups was 64 mg/dL at last follow-up, down from a median of 83 mg/dL at baseline in the preventive PCI group and 93 mg/dL in the OMT group.
In the trial, patients randomized to the preventive PCI group had an 89% lower risk of the composite primary endpoint of cardiac death, target-vessel myocardial infarction (MI), ischemia-driven target vessel revascularization, or hospitalization for unstable or progressive angina at 2 years compared with those in the OMT group (0.4% vs. 3.4%; hazard ratio [HR] 0.11; 95% confidence interval [CI] 0.03-0.36) (**Figure 2**).

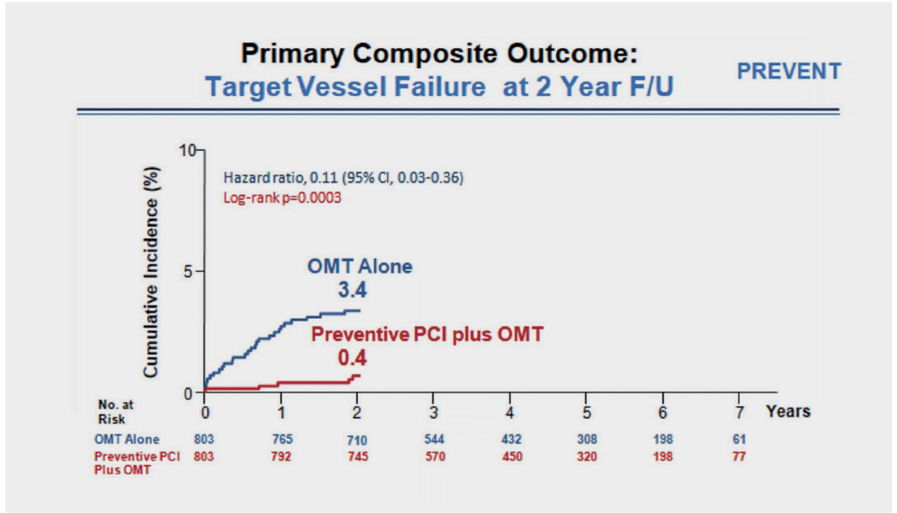


Figure 2. Primary composite outcome

The absolute difference of 3% in the primary composite endpoint was sustained through 7 years of follow-up, with a median of 4.4 years. This study underscores the enduring impact of early intervention strategies in reducing adverse CV events associated with vulnerable plaques.
In an analysis of the patient-oriented composite outcome (death from any cause, any MI, or any repeat revascularization), the preventive PCI group had consistently lower incidence rates at 2 years and 7 years (log-rank p = 0.022).

Reduction in CV events sustained up to 7 years

Over the long-term follow-up, the primary outcome occurred less frequently in the preventive PCI group than in the medical therapy alone group (6.5% vs. 9.4%; HR 0.54; 95% CI 0.33-0.87) (**Figure 3**).

Conflicting responses and future directions

While the PREVENT trial findings have been received with enthusiasm, they have also prompted debate and raised questions regarding the management and identification of vulnerable plaques. Some experts caution against extrapolating results, emphasizing the need for a holistic approach to managing vulnerable lesions beyond focal stenting, incorporating aggressive primary prevention strategies, such as proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors.
Challenges remain regarding accurate identification of vulnerable plaques, with some experts highlighting the limitations of grayscale IVUS in detecting these lesions. Regardless, the study provides valuable insights into preventive PCI, paving the way for future research to address remaining questions and concerns.

Conclusion

The PREVENT trial holds significance as the first large-scale, randomized controlled trial (RCT) comparing preventive PCI plus OMT versus OMT alone for non-flow-limiting vulnerable plaques. While offering valuable insights, further investigation is necessary to refine treatment strategies and optimize patient outcomes in the management of high-risk vulnerable plaques.

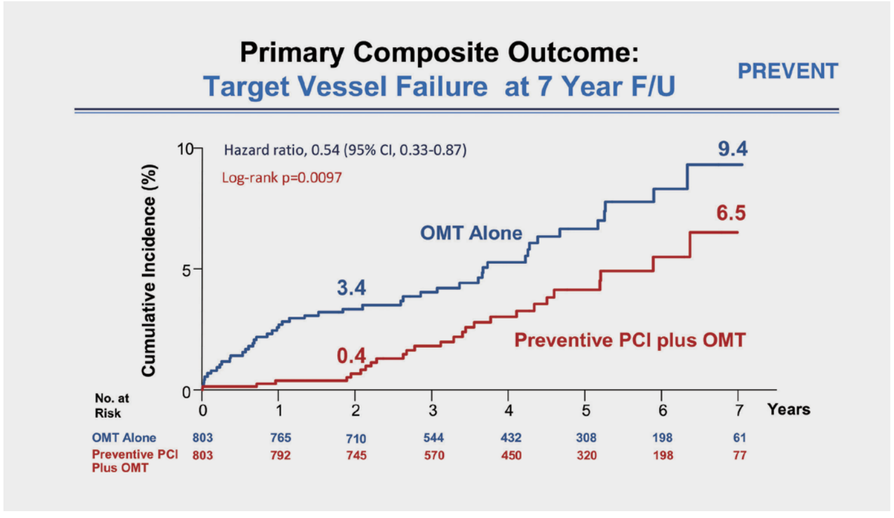


Figure 3. Primary composite outcome at 7 year follow-up

LATE-BREAKING CLINICAL TRIALS

Saturday, April 27
8:30 AM – 10:03 AM

Presentation Room 1, 1F

OCTIVUS Trial: OCT- vs. IVUS-guided PCI in All-comer PCI

Do-Yoon Kang
Asan Medical Center, Korea (Republic of)

On April 27th, the primary results of comparing optical coherence tomography (OCT)-guided versus intravascular ultrasound (IVUS)-guided percutaneous coronary intervention (PCI) will be presented by Do-Yoon Kang, MD, PhD (Asan Medical Center, Ulsan University College of Medicine, Seoul, Korea), based on the insights from the Optical Coherence Tomography versus Intravascular Ultrasound-Guided Percutaneous Coronary Intervention (OCTIVUS) trial. The OCTIVUS trial was conducted by Duk-Woo Park, MD, PhD et al., from 2018 to 2022, where 3897 and 2008 patients were screened and randomized, respectively. The results were reported at the European Society of Cardiology (ESC) congress in 2023 and published in Circulation.
To date, imaging-guided PCI has shown superior clinical outcomes compared to angiography-guided PCI. Therefore, it is recommended that IVUS or OCT be considered in selected patients to optimize stent implantation with a IIa level of evidence. However, controversies remain on the clinical efficacy and safety between OCT-guided and IVUS-guided PCI. Hence, the OCTIVUS trial was conducted to evaluate this issue.
The design of the pragmatic OCTIVUS trial will be introduced in the session (**Figure 1**). It attempted to incorporate clinically relevant tools of usual intracoronary imaging in the routine PCI practice, a diverse study population with various clinical and anatomical characteristics, heterogeneous PCI management practice settings, use of a broad range of clinical endpoints, and lastly, clinically unmet issues in the daily clinical practice. The primary endpoint of the trial was target vessel failure (TVF) at 1 year. Secondary endpoints included the individual components of the primary endpoint, target-lesion failure, stent thrombosis, repeat revascularization, contrast-induced nephropathy and procedural complications. Patient flow and follow-up scheme is provided in the figure below (**Figure 2**).

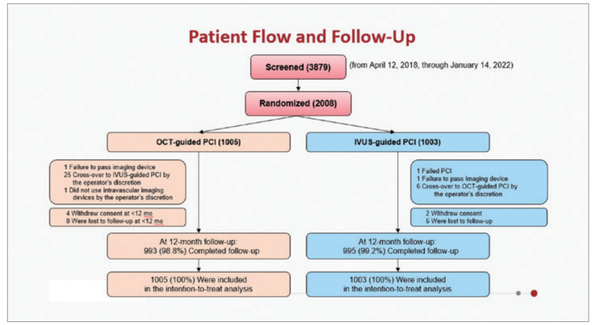


Figure 2. Patient flow and follow-up scheme

In the presentation, the results of the study will be shared, including key baseline characteristics, as well as anatomical and procedural characteristics, which successfully reflected a real-world clinical practice in a randomized-controlled trial (RCT) setting. Procedural outcomes and core lab-imaging analysis will also be provided to further the understanding of the results of the study. 53.4% and 60.1% of treated lesions met all stent-optimization criteria in the OCT-guided PCI group and IVUS-guided PCI group, respectively (p=0.001).
At 1 year after randomization, the primary endpoint, a composite of death from cardiac causes, target vessel-related myocardial infarction, or ischemia-driven target-vessel revascularization, had occurred in 25 of 1005 patients (2.5%) in the OCT-guided PCI group and in 31 of 1003 patients (3.1%) in the IVUS-guided PCI group (risk difference, −0.6 percentage points; upper boundary of one-sided 97.5% confidence interval [CI], 0.97; p<0.001 for noninferiority) (**Figure 3**). The individual components of the primary endpoint and secondary endpoints will also be reported.
The presentation will culminate with the conclusion of the trial, that OCT-guided PCI was noninferior to IVUS-guided PCI with respect to a composite of death from cardiac causes, target-vessel myocardial infarction, or ischemia-driven target-vessel revascularization at 1 year. However, the selected study population and lower than expected lower-than-expected event rates should be considered in interpreting the trial.

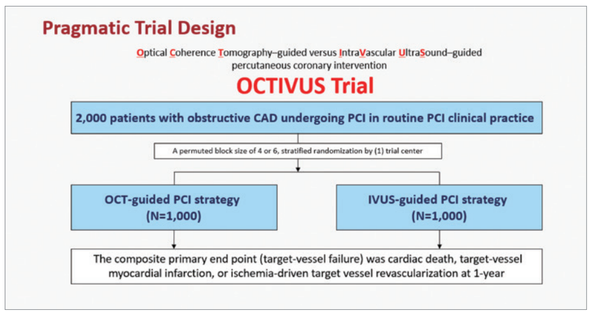


Figure 1. OCTIVUS trial design

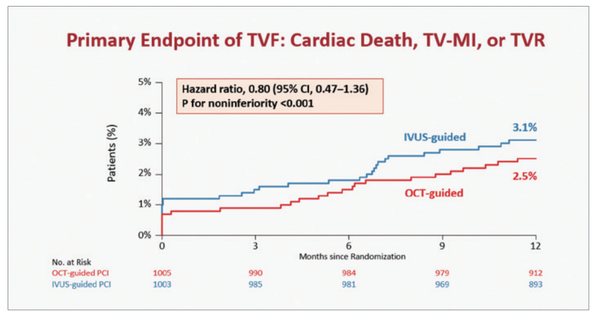


Figure 3. Primary endpoint of TVF

ONGOING TRIALS FROM AMC

Saturday, April 27
11:30 AM - 12:40 PM

Presentation Room 1, 1F

ASSURE-DES Trial: Optimal Antiplatelet Strategy in DES Patients During Noncardiac Surgery

Hanbit Park
GangNeung Asan Hospital, Korea (Republic of)

The management of antiplatelet therapy in patients who need noncardiac surgery after percutaneous coronary intervention (PCI) with drug-eluting stents (DESs) requires consideration, including the risks of stent thrombosis with cessation and bleeding with continuation.
The current guideline recommends continuation of aspirin perioperatively if the bleeding risk allows. However, for patients undergoing surgery with high bleeding risk (e.g. intracranial, spinal neurosurgery, or vitreoretinal ophthalmic surgery), discontinuation of aspirin is recommended at least 7 days preoperatively.
There are limited data on continuation of aspirin in patients with prior PCI with DES who are undergoing noncardiac surgery. The subgroup analysis of POISE-2 trial showed that in patients with prior PCI, continuation of aspirin reduced the risk of death or non-fatal myocardial infarction (MI) (hazard ratio [HR] 0.50; 95% confidence interval [CI] 0.26-0.95). The risk for major or life-threatening bleeding was neutral (HR 1.26; 95% CI 0.55-2.88). However, this study was underpowered and does not exclude a potential subgroup effect, as it was a subgroup analysis.
Perioperative Antiplatelet Therapy in Patients With Drug-eluting Stent Undergoing Noncardiac Surgery (ASSURE-DES) trial is an investigator-initiated, prospective, multicenter, randomized controlled trial comparing the safety and efficacy of aspirin cessation or continuation in perioperative period of noncardiac surgery in patients who have undergone PCI with DES for more than 12 months (**Figure 1**). Key exclusion criteria includes recent acute coronary syndrome (ACS) (within 1 month), severe left ventricular dysfunction (EF ≤ 30%), severe valvular heart disease, emergent operation, or high bleeding risk operation (e.g., intracranial, intraspinal, or retinal surgery). The primary endpoint was a composite of all-cause death, stent thrombosis, MI, and stroke from 5 days before to 30 days after surgery.
From March 2017 through to March 2024, a total of 900 patients were enrolled. The primary results will become available this year, which is anticipated to provide valuable clinical evidence to determine optimal antiplatelet therapy in patients who underwent PCI with DES before noncardiac surgery.

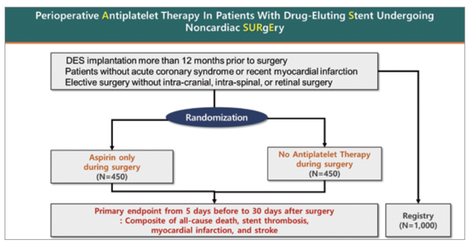


Figure 1. The study design of the ASSURE-DES trial

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30th Anniversary

TCTAP 2025

Coronary Intervention
Endovascular Intervention
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April 23~26, 2025

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Call for Submission

July 8 ~ November 8, 2024