

APRIL 23

19th CARDIOVASCULAR SUMMIT
TCTAP 2014

Daily News

April 22-25, 2014, COEX, SEOUL, KOREA

Today's Highlights

Opening and TCTAP Main Session
Main Arena, 8:30 AM – 6:00 PM

TCTAP Master of the Masters Award

Main Arena, Level 3
9:48 AM – 10:00 AM

Imaging & Physiology Summit

Coronary Arena, Level 1
2:00 PM – 4:30 PM

CIT & CCT Session @ TCTAP 2014

Room 1-2, Level 1
2:00 PM – 6:00 PM

DES Summit

Coronary Arena, Level 1
4:30 PM – 5:55 PM

Endovascular Symposium

(Complex PIC, SFA Intervention)
Endovascular & Structural Heart
Theater, Level 1
2:00 PM – 6:00 PM

Morning Roundtable Forum

(STEMI, Functional Angioplasty,
CTO, TAVI, DES, BTK Intervention)
7:00 AM – 8:10 AM

Satellite Symposium

Lunchtime Activities
12:45 PM – 1:45 PM
Evening Symposium
6:00 PM – 8:20 PM

Moderated Oral Abstracts & Cases Competition

Exhibition Hall, Level 3
2:00 PM – 6:00 PM

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TCTAP
2014



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TCTAP 2014-Gear Up for the Next Innovation



The history of TCTAP is a history of unceasing change and evolution. In order to provide high quality research and scientific resources, as well

as professional interactions for the advancement of science, TCTAP has trying to keep up with innovation. For almost two decades it has been growing both in academic quality of higher education and in size by draws thousands of attendees. TCTAP attracts researchers and practitioners from academic, public, and private sectors from 50 different countries to Seoul every April and about half of the total reported attendees come from outside Korea.

As the leading name representing interven-

tional therapy, TCTAP2014 continues to expand its scientific collaboration with global partners. It is expected to help fulfill the mission to facilitate research, education, and collaboration with global partners to benefit worldwide. Prominent interventional cardiologists in each country get involved in planning and designing sessions for the purpose of introducing and sharing their current techniques, systems, and best practices to audiences with different backgrounds and cultures.

The organization was very pleased with the positive feedback for 2013, but also carefully evaluated the comments, recommendations, and suggestions. As a result, we implemented some new topics and various workshops this year and brought together experts from all around the world to repre-

⟨Highlights from Yesterday⟩

8th CTO LIVE 2014

The 19th TCTAP started with CTO LIVE 2014 yesterday. The CTO LIVE 2014 was held successfully with more than five hundred attendees including physicians, technologists, nurses, and medical professionals. CTO LIVE had pre-intervention case reviews, expert's lecture, featured lecture, and case wrap-up sessions to provoke enthusiasm and provide updated antegrade and retrograde wire strategy of CTO-PCI, new devices, and current data in CTO-PCI. After 7 successful live demonstrations, all operators shared their experiences and explained their techniques and tips during the procedure in detail. Our featured lecture session emphasized the role of current new-generation DES including Bioabsorbable Vascular Scaffold (BVS) in CTO-PCI. Recently, CTO lesions have become a possible target for PCI in proper patients

but required a special skill set and understanding of anatomy, imaging, and dedicated devices. We hope that leading or beginning interventional cardiologists become familiar with CTO intervention through our CTO LIVE demonstration.

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sent different views and perspectives. We hope all of you enjoy our active, and dynamic learning environment at TCTAP2014.

This year, newly expanded partnership sessions were organized by 11 international societies and groups from the Asia-Pacific region and USA.

Continued on page 12, 13

⟨Highlights from Yesterday⟩

Fellowship Training Course

TCTAP continues to grow and evolve, emulating the field of interventional cardiology itself. This year, the TCTAP Fellowship Course broadened the reach of angioplasty from left main & bifurcation PCI to endovascular intervention. The sessions took place from 10:00 AM to 4:30 PM on Tuesday with great attention by fellows and young cardiologists. The courses, which were divided into themes, featured lectures by specialists as well as answered questions that enable attendees to assess their current knowledge.

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Verena Hari, Production DEX

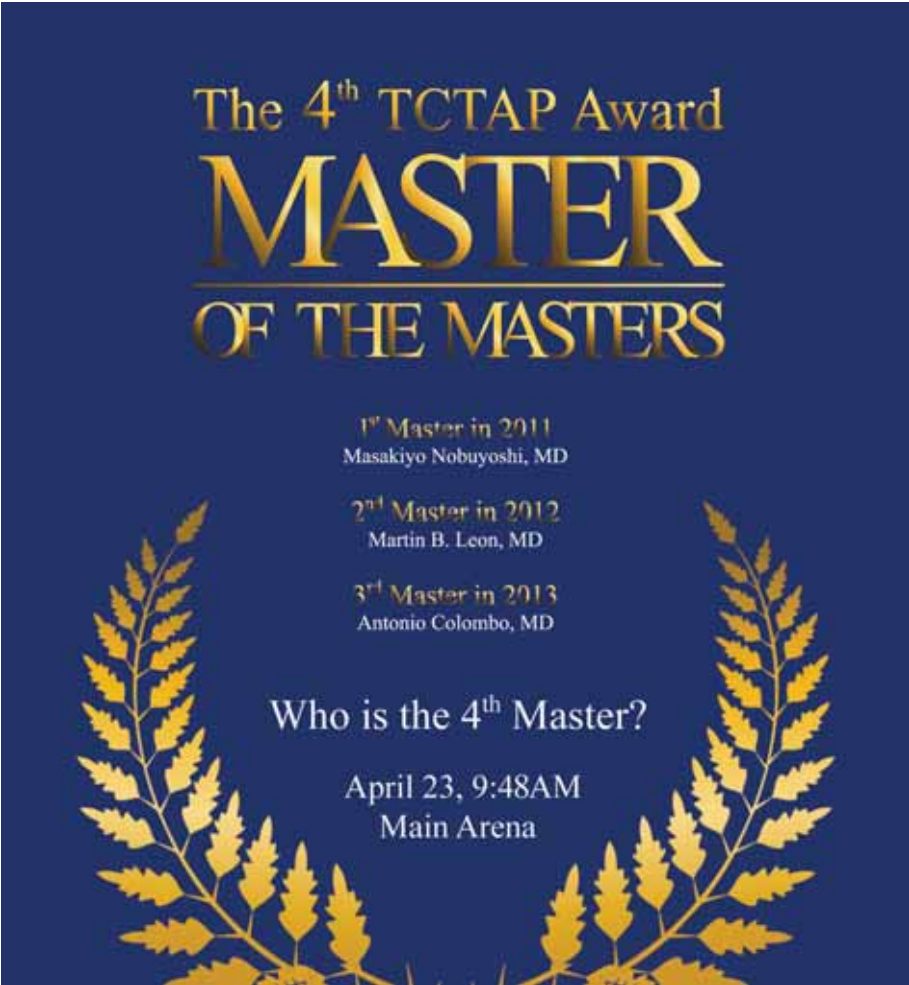


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Meeting Information

- ◆ **Registration / Badge Pick-up**
 - **3F, Exhibition Hall Lobby**
Wednesday 23 - Thursday 24 6:00 AM - 7:00 PM
 - **1F, Grand Ballroom Lobby**
Friday 25 6:00 AM - 12:30 PM
- ◆ **Conference Bag Pick-up**
 - **3F, Exhibition Hall Lobby**
Wednesday 23 6:00 AM - 7:00 PM
Thursday 24 6:00 AM - 7:00 PM
 - **1F, Lobby**
Friday 25 6:00 AM - 12:30 PM
- ◆ **Invited Faculty Lounge, 2F**
 - Wednesday 23 6:00 AM - 7:00 PM
 - Thursday 24 6:00 AM - 7:00 PM
 - Friday 25 6:00 AM - 12:30 PM
- ◆ **Preview Room, 2F (Slide Upload)**
 - Wednesday 23 6:00 AM - 7:00 PM
 - Thursday 24 6:00 AM - 7:00 PM
 - Friday 25 6:00 AM - 12:30 PM
- ◆ **CVRF Booth, 1F (Organizing Secretariat)**
 - Wednesday 23 6:00 AM - 7:00 PM
 - Thursday 24 6:00 AM - 7:00 PM
 - Friday 25 6:00 AM - 12:30 PM
- ◆ **Information Desk**
 - 3F, Main Arena Lobby
 - 1F, CVRF Booth
- ◆ **Tour Information Desk**
 - 1F, CVRF Booth
- ◆ **Lounge**
 - 3F, Exhibition Hall, Registration
 - 1F, CVRF Booth
- ◆ **Exhibition, 3F**
 - Wednesday 23 9:00 AM - 6:00 PM
 - Thursday 24 9:00 AM - 6:00 PM
- ◆ **Learning Center**
 - 3F, Exhibition Hall
 - 2F, Room 2-5 (Room 209)
- ◆ **WiFi Zone**
 - 3F, Exhibition Hall, Main Arena, Registration Lounge
 - 2F, Invited Faculty Lounge, Preview Room
 - 1F, CVRF Booth, Coronary Arena, Structural Heart & Endovascular Theater
- ◆ **Cyber Station**
 - 3F, Exhibition Hall
 - 1F, CVRF Booth
- ◆ **Free Mobile Recharge**
 - 3F, Exhibition Hall, Registration Lounge
 - 1F, CVRF Booth
- ◆ **Certificate of Attendance**
 - **3F, Service Booth**
Wednesday 23 - Thursday 24
 - **1F, Service Booth**
Friday 25
- ◆ **Lost & Found / Cloak Room**
 - 3F, Coat Room
Wednesday 23 - Thursday 24 8:00AM - 6:00PM
- ◆ **Shuttle Bus**
 - Free shuttle bus is provided between COEX and several venue hotels. Ask at the CVRF booth, 1F or Information desk, 3F for more information.
- ◆ **Prayer Room**
 - 2F, Room 202A
 - Wednesday 23 - Thursday 24 8:00 AM - 6:00 PM
 - Friday 25 8:00 AM - 12:00 PM



We cordially invite you to
ACT Tour @ Asan Medical Center

- **Program**
Live Case Demonstration, Presentation and Q&A
Tour of Cathlab, CCU and Other Facilities
- **Schedule**
Tour 1 : April 23(Wed) at 4 PM
Tour 2 : April 24(Thu) at 10 AM
Tour 3 : April 24(Thu) at 4 PM
* Each tour will be limited up to 12 people.
- **Pick-up Place**
ACT Desk at CVRF Booth, 1F Lobby, COEX
* Onsite registration is available.

For more information, visit
www.cvrf.org/act



Moderated interview sessions at the open studio Main Arena Lobby, Level 3 on selected key topics in the field of vascular medicine with world's leading experts

Wednesday, April 23

Renal Stenting Controversy (9:00 AM - 9:30 AM)
Moderator : Krishna Rocha-Singh
Interviewees : Richard R. Heuser, Michael R. Jaff, John Robert Laird, Jr.

CTO (9:50 AM - 10:20 AM)
Moderator : Etsuo Tsuchikane
Interviewees : Yves R. Louvard, Toshiya Muramatsu

STEMI Intervention (11:00 AM - 11:30 AM)

Moderator : Stephen G. Ellis
Interviewees : Bernard Chevalier, Cindy L. Grines, Neal S. Kleiman

FFR (11:50 AM - 12:20 PM)
Moderator : John McB. Hodgson
Interviewees : Eric Van Belle, William F. Fearon, Seung-Jung Park

TAVI (5:15 PM - 5:45 PM)
Moderator : Alain G. Cribier
Interviewees : Eberhard Grube, Martin B. Leon, Ian T. Meredith

Thursday, April 24

Invasive Imaging (8:45 AM - 9:15 AM)
Moderator : Gary S. Mintz
Interviewees : Takashi Akasaka, Akiko

Maehara, Evelyn Regar
Antithrombotic Therapies (9:30 PM - 10:00 PM)
Moderator : David J. Cohen
Interviewees : Jean-Philippe Collet, Neal S. Kleiman, Manesh Patel

LM and Bifurcation (3:45 PM - 4:15 PM)
Moderator : David E. Kandzari
Interviewees : Yves R. Louvard, Seung-Jung Park, David Paul Taggart

Interview video clips will be available online after the meeting at
www.summit-tctap.com,
www.summitmd.com and
www.youtube.com/CVRFEvents
TCTAP Application

Today’s Programs: Wednesday, April 23

Plenary Sessions

8:30 AM - 6:00 PM
Main Arena, Level 3

Live Case Session I - USA

Transmitted from Columbia University Medical Center, USA
8:30 AM - 9:30 AM

Main Session I. Opening of TCTAP 2014

9:30 AM - 9:48 AM

Main Session II. TCTAP Award 2014

9:48 AM - 10:00 AM

Main Session III. TCT Session @TCTAP 2014: Hot Topics and Featured Lectures

10:00 AM - 12:30 PM

Live Case Session II

2:00 PM - 3:00 PM

Main Session IV

3:00 PM - 3:40 PM

Live Case Session III

3:40 PM - 4:40 PM

Main Session V

4:40 PM - 5:00 PM

Live Case Session IV

5:00 PM - 6:00 PM

Coronary Symposium

2:00 PM - 6:00 PM
Coronary Arena, Level 1

Imaging & Physiology Summit

2:00 PM - 4:30 PM

DES Summit

4:30 PM - 5:55 PM

Chien Foundation Award for Outstanding Lectureship & Lifetime Achievement in PCI

5:55 PM - 6:00 PM

Endovascular Symposium

10:00 AM - 11:30 AM / 2:00 PM - 6:00 PM
Endovascular & Structural Heart Theater, Level 1

Live Case Session I

10:00 AM - 11:30 AM

Endovascular Session I. Complex PCI

2:00 PM - 3:00 PM

Live Case Session II

3:00 PM - 4:00 PM

Endovascular Session II. SFA Intervention

4:00 PM - 5:00 PM

Live Case Session III. Below the Knee Intervention

5:00 PM - 6:00 PM

Partnership Session with International Society

2:00 PM - 6:00 PM
Room 1-2, Level 1

CCT Session @TCTAP 2014: Improve Success of CTO PCI

2:00 PM - 4:00 PM

CIT Session @ TCTAP 2014: Optimization of Left Main PCI in "Real World" Practice

4:00 PM - 6:00 PM

🍴 Morning Roundtable Forum: Meet the Experts over Breakfast

7:00 AM - 8:10 AM

STEMI Intervention: Unresolved Issues & Future

Organized by CVRF
Room 1-1, Level 1

Functional Angioplasty

Organized by CVRF and Supported by Educational Grant from St. Jude Medical
Room 1-2, Level 1

Chronic Total Occlusion

Organized by CVRF and Supported by Educational Grant from ASAHI INTECC (AMG Korea)
Endovascular & Structural Heart Theater, Level 1

Lesson from TAVI Cases

Organized by CVRF and Supported by Educational Grant from Edwards Lifesciences Korea
Coronary Arena, Level 1

Drug-Eluting Stents: Bioabsorbable Vascular Scaffolds

Organized by CVRF and Supported by Educational Grant from Abbott Vascular
Room 1-3, Level 1

BTK Intervention: Share Breath with Expert

Organized by CVRF and Supported by Educational Grant from Medtronic Co., Ltd.
Room 2-1, Level 2

🍴 Lunchtime Activities

12:45 PM - 1:45 PM

How Can We Improve Personalized Medicine? A Close Look at Diabetics and Primary PCI

Organized by CVRF and Supported by Educational Grant from BIOTRONIK
Room 1-1, Level 1

Contemporary Stent Designs: How to Customize it to Make it Better?

Organized by CVRF and Supported by Educational Grant from Boston Scientific

Room 1-2, Level 1

DEB: Treat with All Possibility and Preserve Future Option

Organized by CVRF and Supported by Educational Grant from Medtronic Co., Ltd.
* 11:30 AM - 12:30 PM * (No meals to be served)
Endovascular & Structural Heart Theater, Level 1

Medtronic Luncheon Symposium

Organized by CVRF and Supported by Educational Grant from Medtronic Co., Ltd.
Endovascular & Structural Heart Theater, Level 1

Save the Leg Project 2014: Road to Success for Complex PAD Patients - Learning from Professionals

Organized by CVRF and Supported by Educational Grant from Johnson & Johnson Medical Korea and Japan
Coronary Arena, Level 1

Integrated Use of OCT, IVUS, and FFR

Organized by CVRF and Supported by Educational Grant from St. Jude Medical
Room 1-3, Level 1

The Latest Perspectives on Clinical Benefits and Limitations of Antiplatelet Treatment

Organized by CVRF and Supported by Educational Grant from SANOFI Korea
Room 2-1, Level 2

Update on 2013 ACC/AHA Guideline

Organized by CVRF
Room 3-1, Level 3

Tailored Antiplatelet Treatment Using Effient

Organized by CVRF and Supported Through an Unlimited Educational Grant from Daiichi-Sankyo Korea & Lilly Korea
Room 3-2, Level 3

Optimizing Daily Stenting Strategy - NOBORI Experience Updates from Around the Globe

Organized by CVRF and Supported by Educational Grant from Terumo Korea Corporation
Room 4-1, Level 4

🍴 Evening Symposium

Oral Antiplatelet Agents in ACS Management

Organized by CVRF and Supported by Educational Grant from Astrazeneca Korea
6:00 PM - 8:20 PM
Room 1-1, Level 1

Pulmonary Arterial Hypertension and Congenital Heart Disease: Role of Interventional Cardiology

Organized by CVRF and Supported by Educational Grant from Handok

6:00 PM - 8:20 PM
Endovascular & Structural Heart Theater, Level 1

New Tech Symposium Co-sponsored by Abbott Vascular

Organized by CVRF and Supported by Educational Grant from Abbott Vascular Japan
6:00 PM - 8:30 PM
Room 1-3, Level 1

Moderated Oral Abstract Competition I, II

2:00 PM - 6:00 PM
Abstract Zone I, Abstract Zone II, Exhibition Hall, Level 3

Moderated Complex Case Competition I, II, III

2:00 PM - 6:00 PM
Case Zone I, Case Zone II, Case Zone III, Exhibition Hall, Level 3

📡 Live Case Transmission from World-renowned Medical Centers



Asan Medical Center, Seoul, Korea

- April 23 - 24
Main Arena, Level 3 / Endovascular & Structural Heart Theater, Level 1



Columbia University Medical Center, New York, USA

- April 23, 8:30 AM - 9:30 AM, Main Arena, Level 3
- Operator: Jeffrey W. Moses MD, Rebecca Hahn MD, Dimitrios Karpaliotis MD, Susheel Kodali MD, Matthew Williams MD



St. Paul Hospital, Vancouver, Canada

- April 24, 8:30 AM - 9:30 AM, Main Arena, Level 3
- Operator: John Webb MD, David Wood MD



Institut Hospitalier Jacques Cartier, Paris, France

- April 24, 3:30 PM - 4:30 PM, Main Arena, Level 3
- Operator: Marie-Claude Morice MD, Thomas Hovasse MD

Imaging and Physiology Summit

Wednesday, April 23, 2:00 PM - 4:30 PM, Coronary Arena, Level 1

IVUS guided PCI for Better PCI Outcome



In the afternoon session of Imaging and Physiology Summit, Dr. Akiko Maehara (CRF, New York, USA) will present about the advantage of IVUS-guided PCI based on the ADAPT-DES IVUS substudy. IVUS has provided valuable information on cross-sectional coronary vascular structure and has played a key role in contemporary stent-based PCI by accurately assessing coronary anatomy, assisting in selection of treatment strategy, and defining optimal stenting outcomes. In the bare-metal stent era, randomized trials and meta-analysis demonstrated that IVUS-guided PCI was mainly associated with a lower risk of angiographic restenosis and target vessel

revascularization. In the drug-eluting stent (DES) era, a recent meta-analysis showed that the risk of death and stent thrombosis was reduced by IVUS-guided DES implantation. ADAPT DES was a prospective, multicenter, nonrandomized "all-comers" study of 8,583 consecutive patients at 11 international centers designed to determine the frequency, timing, and correlates of stent thrombosis and adverse clinical events after DES. As a prespecified subgroup analysis, Dr. Maehara evaluated the IVUS guided PCI versus angiography guided PCI. In this large observational study, she found that

IVUS was utilized in 3,349 patients (39%) and larger-diameter devices, longer stents, and/or higher inflation pressures were used in 74% of IVUS-guided cases. IVUS guidance compared with angiography guidance was associated with reduced 1-year rates of definite/probable stent thrombosis (0.6% [18 events] versus 1.0% [53 events]; adjusted hazard ratio, 0.40; 95% confidence interval, 0.21-0.73; P=0.003), myocardial infarction (2.5% versus 3.7%; adjusted hazard ratio, 0.66; 95% confidence interval,

0.49-0.88; P=0.004), and composite adjudicated major adverse cardiac events (ie, cardiac death, myocardial infarction, or stent thrombosis) (3.1% versus 4.7%; adjusted hazard ratio, 0.70; 95% confidence interval, 0.55-0.88; P=0.002) (Figure 1). The benefits of IVUS were especially evident in patients with acute coronary syndromes and complex lesions, although significant reductions in major adverse cardiac events were present in all patient subgroups including those with stable angina and single-vessel disease. Therefore, IVUS guidance was associated with a reduction in stent thrombosis, myocardial infarction, and major adverse cardiac events within 1 year after DES implantation.


Clinical Outcome at 1 year			
	IVUS Use n = 3349	No IVUS n = 5234	P Value
Definite/probable ST	0.52% (17)	1.04% (53)	0.011
- Acute<1day	0.06% (2)	0.04% (2)	0.66
- Subacute (1-30day)	0.27% (9)	0.56% (29)	0.051
- Late (>30day to 1yr)	0.25% (8)	0.46% (23)	0.12
All death	1.79% (58)	2.04% (103)	0.40
Cardiac death	0.84% (27)	1.19% (60)	0.12
All MI	2.46% (81)	3.68% (188)	0.0022
- Peri-procedural MI	1.26% (42)	1.53% (80)	0.29
- ST related MI	0.37% (12)	0.59% (30)	0.16
- Non ST related MI	0.87% (28)	1.58% (79)	0.0054
Ischemia driven TLR*	1.52% (51)	2.37% (124)	0.0068

Figure 1.

NIR Spectroscopy: Fundamentals and Diagnostic Applications

Dr. Akiko Maehara (CRF, New York, USA) will present the basics and the clinical applications of NIR Spectroscopy, very sensitive intracoronary imaging to detect lipid core plaque (Figure 2). Near-infrared

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spectroscopy takes advantage of the fact that different substances absorb and scatter NIR light (wavelengths from 800 to 2,500 nm) to different degrees at various wavelengths. An NIR spectrometer emits light into a sample and measures the proportion of light that is returned over a wide range of optical wavelengths. The

return signal is then plotted as a graph of absorbance (y-axis) at different wavelengths (x-axis) called a spectrum. Dr. Maehara will point out the clinical benefit of NIR Spectroscopy as following: 1) the prediction of periprocedural myocardial infarction due to distal embolization after PCI 2) the detection of vulnerable plaque at the risk of future myocardial infarction 3) potential improvement of PCI outcomes.

FFR guided PCI in Routine Practice: the Experience of Asan Medical Center

In the session of assessment of myocardial ischemia, several world renowned “functionalists” will present the benefit of FFR measurement based on large registry data. Firstly, Dr. Seung-Jung Park (Asan Medical Center, Korea) will present the experience of the Asan Medical Center. He will mention that during the past 30 years, percutaneous coronary intervention (PCI) has become one of the stan-



dard treatment strategies for patients with ischemic heart disease since successful PCI of ischemia-producing stenoses reduced cardiovascular events. However, in a significant proportion of patients, PCI is performed without documentation of ischemia, which is not beneficial and is instead associated with increasing clinical risks and economic costs. Fractional flow reserve (FFR) is a pressure-wire-based index used during invasive procedure to identify ischemia-producing coronary stenoses. The accuracy of FFR has been validated in a wide variety of clinical and anatomic situations. Moreover, several randomized and observational studies have documented the benefit of using FFR to select coronary stenoses for stent implantation. Although contemporary guidelines recommend FFR measurements in the absence of clinical evidence of ischemia, the use of FFR during coronary intervention is reported to be only 6%. Many operators still use angiography to decide if and when to perform revascularization. In addition, there are limited large studies that reproduce the benefits of FFR in real world practice. The ASAN PCI registry is composed of two distinct periods separated by the introduction of mandated routine FFR use. The use of FFR in this prospective registry has

increased from 1.9% between 2008 and 2009 to 50.7% between 2010 and 2011. This rapid adaptation of FFR within a relatively brief time frame provided a valuable opportunity to evaluate the overall benefit of FFR-guided PCI in real practice. Here, we report the changes in practice and outcomes of patients who underwent PCI before and after the routine use of FFR. Between January 2008 and December 2011, 5,097 patients underwent PCI at an academic hospital in Korea. We used propensity-score matching to compare the rates of the primary endpoint (death from any causes, myocardial infarction, or repeat revascularization) between patients at 1 year before and after the routine use of FFR. The rate of FFR use during PCI significantly increased from 1.9% to 50.7% after the introduction of routine FFR use ($P < 0.001$). FFR was successfully measured in 1,267 patients; of those, PCI was deferred in 475 (37.5%) without any stent implantation. The number of lesions per patient was 1.8 ± 0.9 before versus 1.8 ± 1.0 after the routine FFR use ($P = 0.39$). The total number of stents implanted per patient was 2.1 ± 1.3 versus 1.5 ± 1.2 , respectively ($P < 0.001$). In the propensity-score matched cohort (2,178 pairs), the rates of the primary endpoint was significantly lower in patients after the rou-

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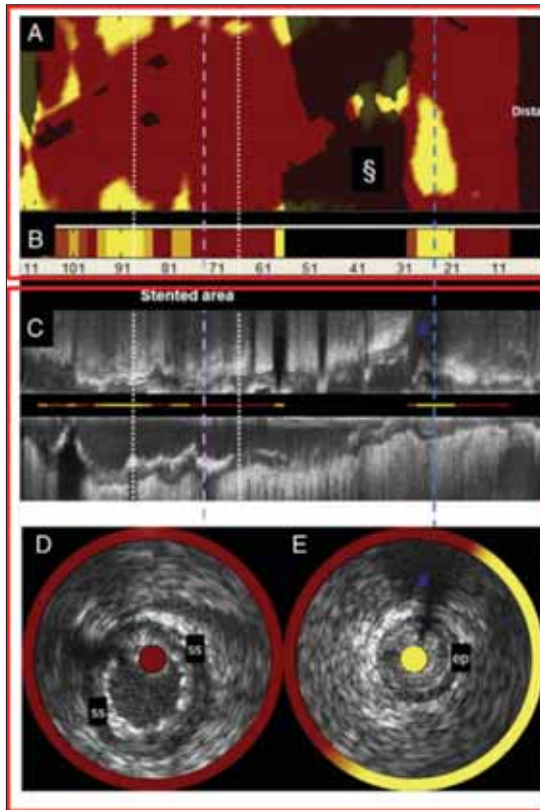
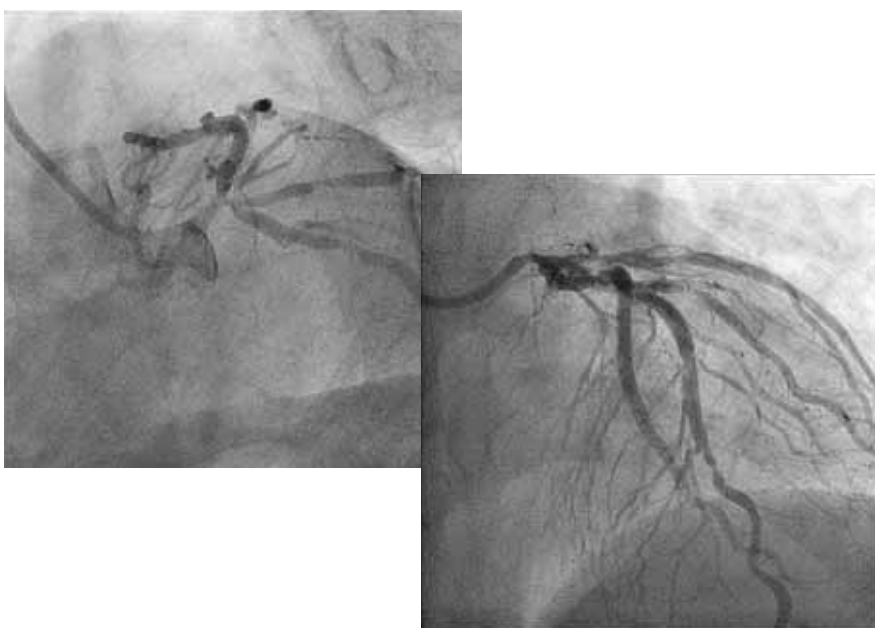


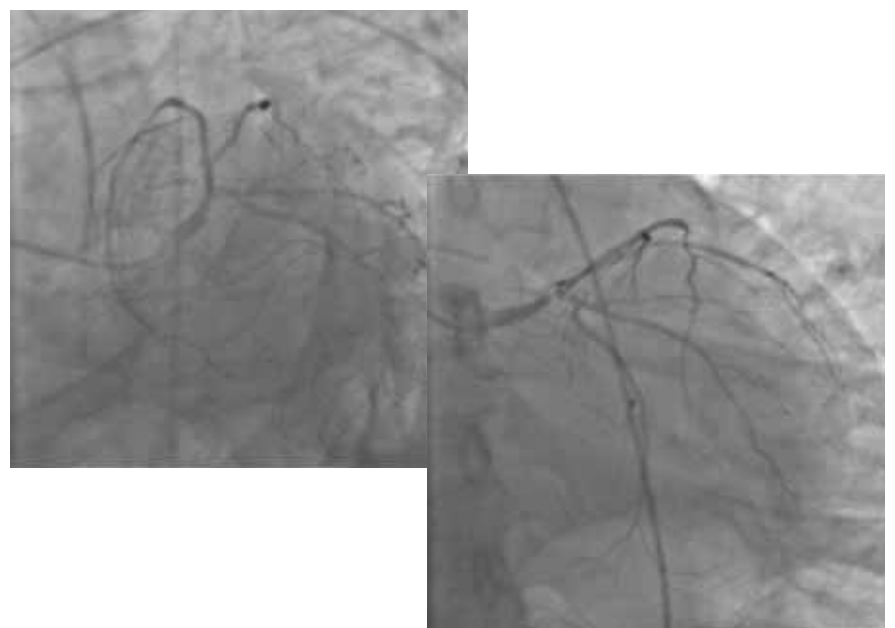
Figure 2.

Today's Hot Lives

Q How would you treat this lesion involving LM trifurcation? After treating this lesion, would you like to fix the remaining lesion in LAD, high OM, and LCX? If you hesitated to put a stent depending on only an angiography, what modality would help your decision-making?



Q Would you like to stent the LCX in treating LM bifurcation lesion? If you would, which technique would you prefer to stent this lesion with?





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tine FFR use versus patients before the routine use of FFR (hazard ratio, 0.55; 95% confidence interval, 0.43–0.70, $P<0.001$). This was primarily due to a reduction in periprocedural myocardial infarction and repeat revascularization. Routine measurement of FFR in daily practice appeared to be associated with fewer use of stents and an improvement in clinical outcomes.

FFR Together with Coronary Angiography: Insights from a Large French Registry

Eric Van Belle (Hopital Cardiologique, France) will present registry data. He will



say that although recent data suggest that FFR can be useful in guiding coronary revascularization in patients referred for a PCI procedure (DEFER, FAME, FAME2), its benefit in patients referred for diagnostic angiography remains unclear. The present report investigated the role of FFR on the choice of treatment modalities in 1,075 patients referred for diagnostic angiography in 20 French centers. It first demonstrates that the use of FFR changes marginally the proportion of patients referred to each treatment modality. The “strategy a priori” based on angiography was medical therapy in 55% and revascularization in 45% (PCI=38%, CABG=7%). The applied strategy after FFR was medical therapy in 58% and revascularization in 42% (PCI=32%, CABG=10%). It further demonstrates that the use of FFR is associated with “reclassification” of the initial treatment modality in 43% of cases: in 33% of “a-priori”-medical patients, in 56% of “a-priori”-PCI patients and in 62% of “a-priori”-CABG patients. Finally it shows that “reclassification” by FFR ($n=464$) is associated with a MACE rate of 11.2% and a proportion of patients free of angina

(94%) at one-year similar to patients in whom FFR results concurred with the angiography-based decision. He will conclude that performing FFR during diagnostic angiography is associated with reclassification of the treatment modality in about half of the patients. He will comment on the concept of “physiology guided” coronary revascularization and will provide important basis for future studies.

FFR-CT

Charles Taylor from the HeartFlow compa-

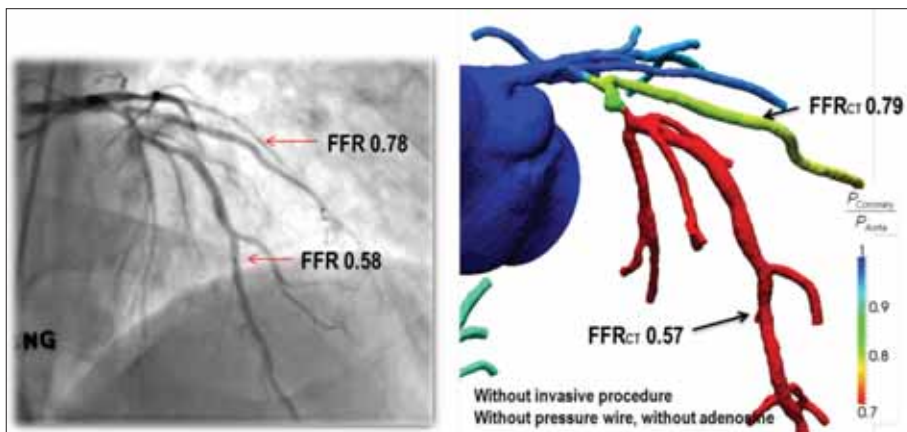


Figure 4.

ny will talk about the FFRCT. Non-invasive CT-derived computed FFR (FFRCT) is a novel technology that enables non-invasive assessment of the functional significance of lesions from computational fluid dynamics (CFD) applied to coronary computed tomography angiography (cCTA). The scientific principles that underlie this technology are as follows: a three-dimensional patient specific anatomic model is first constructed from the cCTA data followed by physiological modeling, the basal coronary outlet resistances at rest are determined from myocardial mass and the vessel size at each outlet, the hyperemic condition is simulated by use of the experimental results that quantified the effect of adenosine; finally, CFD analysis is performed to numerically solve the governing equations of fluid dynamics.

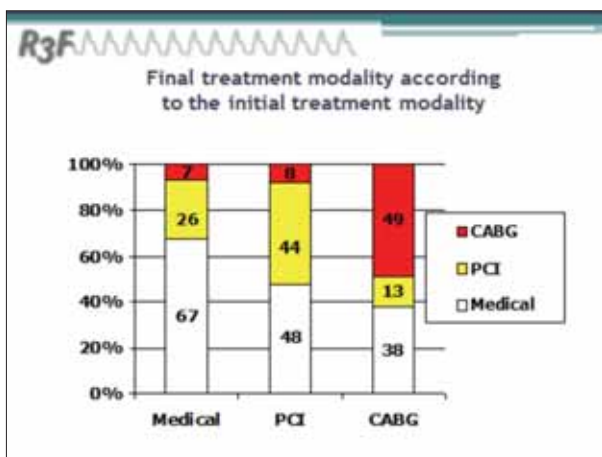


Figure 3.

Three prospective multicenter clinical studies have been conducted to evaluate the diagnostic performance of FFRCT. In these trials, FFRCT was demonstrated as superior to cCTA stenosis severity-based diagnosis. Since FFRCT technology enabled non-invasive methods to model patient specific coronary geometry and physiology, this technology

can be also utilized in other clinical applications. Virtual intervention can provide guidelines to determine the optimal strategy for treating complex lesions before the invasive procedure. In addition, this technology is applicable to the analysis of hemodynamic parameters related with plaque progression and rupture. FFRCT necessitates accurate anatomic geometries and physiologic boundary conditions for subsequent CFD analysis. Thus, cCTA imaging artifacts may influence its accuracy. Additionally, average population-based physiologic model assumptions may limit accuracy as well

because individual patient characteristics may vary. Continuous refinement of this technology is expected to better replicate patient characteristics, thereby improve diagnostic accuracy and contribute to improving patient care in clinics.

CT Myocardial Perfusion Imaging: One-Stop Shop for Structure and Function

Dr. Young-Hak Kim (Asan Medical Center, Korea) will speak about computed tomography myocardial imaging. He will say that computed tomography myocardial perfusion imaging (CTP) has emerged as a method for the detection of myocardial ischemia and a potential advantage of



CTP is the ability to provide three-dimensional imaging dataset covering whole heart with high spatial resolution (Figure 5). He analyzed the data of Asan Medical Center CTP registry. 197 symptomatic patients (mean 63.1 years; 126 male) who underwent combined CTP and coronary CT angiography (CTA) using second generation dual-source CT (retrospective ECG-gating) were enrolled prospectively. Of them, 75 patients who underwent coronary angiography and FFR assessment in 210 epicardial arteries were enrolled in the primary analysis to test the diagnostic accuracy of CTP compared with FFR. $FFR \leq 0.8$ after hyperemia was considered to indicate significant myocardial ischemia. Quantitative parameter for CTA analysis including transmural perfusion ratio (TPR), myocardial density, and myocardial perfusion reserve index were explored. Prevalence of ischemic territory was 41% (86/210) in FFR. Per-vessel sensitivity and specificity of CTP were 80%/95% in all patients, 87%/100% in patient with high coronary calcium score (CAC), and 75%/90% in multivessel disease patients. Specificity of CTA dropped significantly in patient with high CAC and multivessel disease (sensitivity/specificity: 99%/73% in all patients, 100%/50% in high CAC patients, and 100%/50% in multivessel disease patients, respectively). TPR showed moderate diagnostic accuracy (area under curve 0.759, cut-off 0.98) and combined use of quantitative parameters showed a potential to improve sensitivity of visual analysis of CTP. Mean radiation dose for CTP and CTA was 6.6 and 6.0 mSv, respectively. He will conclude that stress myocardial CTP is an accurate method for the identification of inducible ischemia in patients with suspected coronary artery disease. In patients with high CAC and multivessel disease in whom CTA shows low specificity, CTP may provide an incremental value for the prediction of myocardial ischemia.

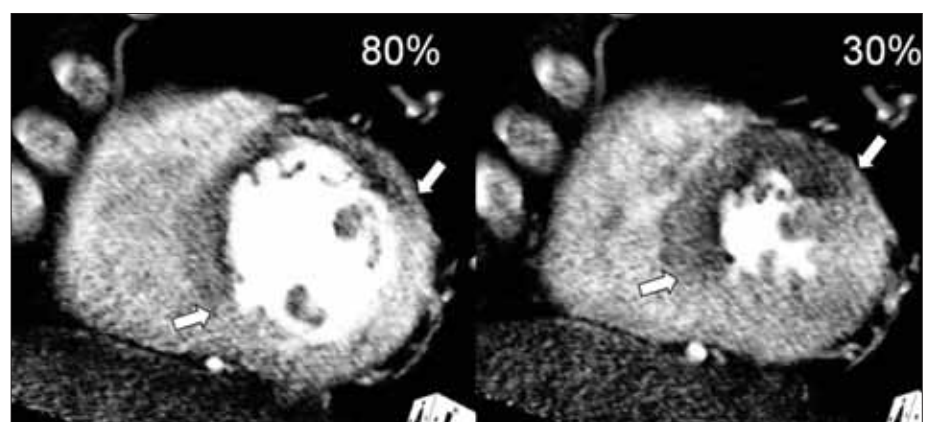


Figure 5.

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More cost-effectiveness*

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- ✓ Bioabsorbable Plug
- ✓ Secure Plug Placement with Fascia and Tissue Contraction



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Fascia Layer

PGA Plug

**Tissue
Contraction**

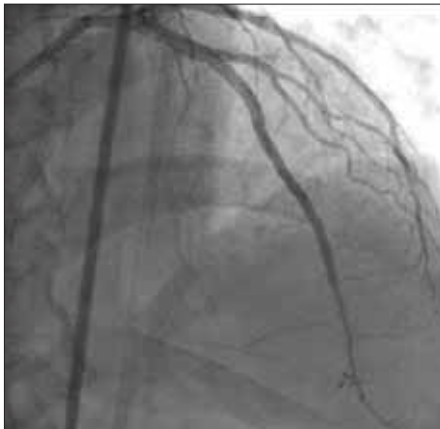
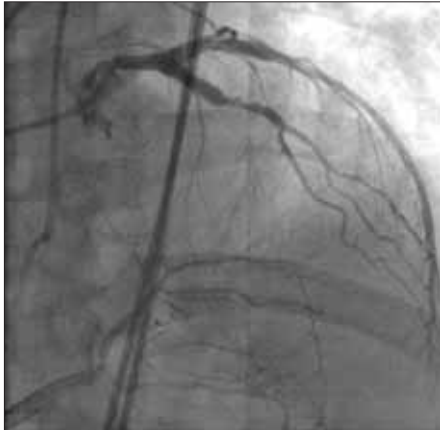
Arteriotomy

Cordis

Highlights From Yesterday

8th CTO LIVE 2014

Tuesday, April 22, 10:00 AM - 5:30 PM, CTO Theater, Level 1



Reverse CART technique

Micro-catheter : ASAHI Corsair
Guide wire : ASAHI RG3 (retrograde)
ASAHI SION blue (antegrade)
Stent : Promus Premier
2.5 × 38 + 3.0 × 38 mm

*CART: controlled antegrade and retrograde subintimal tracking

CTO: What Makes Us Hot?

Active Wire Control and New Weapon



Interview with Dr. Kenya Nasu (Toyohashi Heart Center, Japan): Retrograde approach has definitely improved the total procedural success rate of percutaneous coronary intervention (PCI) for coronary chronic total occlusion (CTO). On the other hand, lower success rate in antegrade approach remains one of the significant

issues even in the retrograde approach era because antegrade technique, mainly guidewiring in CTO site, is also needed after wire crossing in collateral channel. For the improvement of the success rate in antegrade approach, new concept of guidewire control, "active wire control", with new CTO guide wires is introduced as a new weapon to CTO PCI. In order to perform active wire control, the mechanisms of wire control must be understood. The CTO wire control has not been historically conceptualized. Only two mechanisms enable the active wire control in an

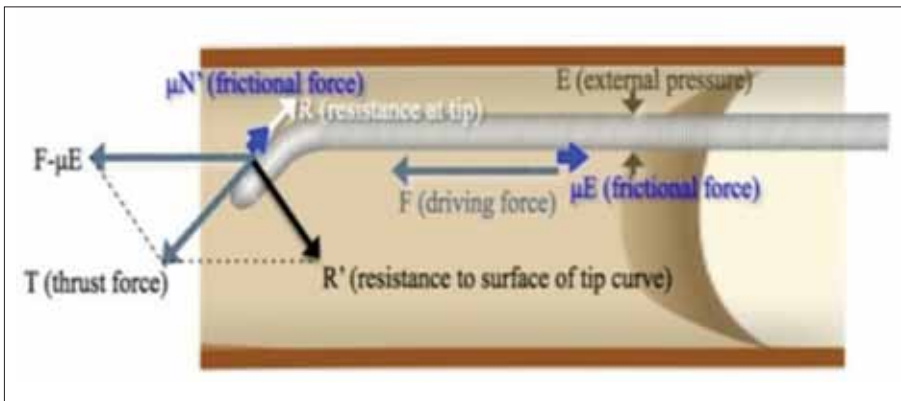


Figure 1.

DES for CTO: Follow-Up Clinical Outcome

	SES (n=365)	PES (n=482)	ZES-R (n=199)	ECS (n=123)	BES (n=188)	EES (n=219)
Ref. diameter (mm:mean)	2.85	2.81	2.84	2.92	2.84	2.87
MLD (mm:mean)	2.49	2.30	2.42	1.98	2.47	2.47
Late loss (mm:mean)	0.16	0.24	0.18	0.64*	0.21	0.20
Loss index (%:mean)	6.0	9.4	6.9	24.4*	7.8	7.4
Restenosis rate (%)	7.9	11.0	9.5	24.4*	9.0	7.3
Re-occlusion rate (%)	0.3	0.8	1.0	3.3	0	0.5
TVR (%)	7.9	10.8	8.5	21.1*	8.5	7.3
TLR (%)	6.0	9.3	7.4	20.3*	6.9	5.9

*p<0.05 vs SES, BES and EES.

Figure 2.

occluded segment. The first is the torque control based on ideal torque response and the second is control of the tip deflection based on the interaction between the wire tip and the tissue contacting the wire tip. Basically, the wire deflection is triggered by two major factors: tip curve and difference in compliance between bordering tissues which means wire deflection is triggered at the border of tissues (Fig.1). Although direction control of wire advancement can be achieved only by deflection control, the torque control, which means controlling the direction of the tip curve, is indispensable to controlling wire deflection. An operator can delicately control wire deflection and therefore control the direction of wire advancement by minimizing the deflection. To minimize the deflection, the direction of the tip curve should be frequently changed, which requires sufficient torque control. To control the direction of the wire, it is simply pushed to direct the tip curve in the direction to be turned in order to make the deflection.

GAIA (Asahi Intec, Japan) is the newest guidewire for CTO lesion and has a completely different concept compared with conventional CTO guidewires to perform active wire control. In GAIA family, the available three models (GAIA 1st, GAIA 2nd, and GAIA 3rd) have different tip load and size of tip, but are united in the main concept of the structure. 1) GAIA micro-cone tip: the ball tip was made smaller to increase its penetration efficacy while maintaining tip flexibility. From in vitro data, the penetration force of GAIA 1st (tip

load: 1.7gf) is almost same as Miracle 12g. GAIA 2nd (tip load: 3.5gf) is the same as Confianza pro and GAIA 3rd (tip load: 4.5gf) is the same as Confianza Pro 12g. 2) Composite core: strong torque, tip flexibility, and less whip motion are possible by implementing ACTONE™ double coil structure. 3) Mini-pre shape: 1mm and 45 degree shaping curve is shaped in the production process makes and possible to have better shape retention during the actual procedure. GAIA has ideal performance, however, only an operator who understands the concept of active wire control can provide ideal performance.

Current Data and Strategy for DES in CTO

Dr. Sunao Nakamura (New Tokyo Hospital,



Japan) talked about current data and strategy for DES in CTO yesterday. For the past 20 years since PCI was introduced for treatment of coronary artery, in Japan much effort has been made for recanalization of CTO lesions which was regarded as the toughest challenge. Such effort raised the success ratio of the procedure from lower than 60% at the very beginning to almost 90% in 10 years. Furthermore, in 2003 an innovative new device was introduced. Drug Eluting Stent (DES) resolved chronic in-stent restenosis which has been the long-suffered challenges of PCI. His group presented CTO PCI

Continued on page 10

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results of patients treated with various DES at AHA in 2012 (Fig 2). Their chronic restenosis rate was lower than 10% in any type of DES, which clearly shows that PCI on CTO lesion can bring satisfactory results. Additional technical innovation such as the retrograde approach and reverse controlled antegrade and retrograde subintimal tracking (CART) technique was brought about which raised CTO PCI success ratio close to 100%. What is noteworthy is that the technical development of retrograde approach and reverse CART technique that tore down the fortress of CTO PCI which used to be the world of master, opened up as a general practice. Thus CTO lesion is now included as a possible target of PCI. Recently another revolutionary development was seen in guidewires which brought the success of CTO PCI with simple antegrade approach. It can be said that PCI on CTO is now getting into the matured era. New technique and innovative devices brings high acute phase success rate. DES realizes extremely



low chronic phase restenosis rate. All of these elements make CTO PCI highly reliable.
New Paradigm of CTO-PCI

Interview with Dr. Masahiko Ochiai (Showa University Northern Yokohama Hospital, Japan): After redefining the CTO pathology (intimal and sub-intimal spaces) and reconfirming the importance of intimal wiring especially in antegrade PCI, Japanese interventional cardiologists and industry professionals accomplished a couple of breakthroughs in devices and strategies of CTO PCI. At first in devices, Gaia wire families became

available in 2013. Gaia families have the same double coil structure as Sion. They have excellent torque control and strong penetration force with flexible tips. When the wire tip is directed towards sub-intimal space or is not strong enough to penetrate hard tissue in intimal space, these

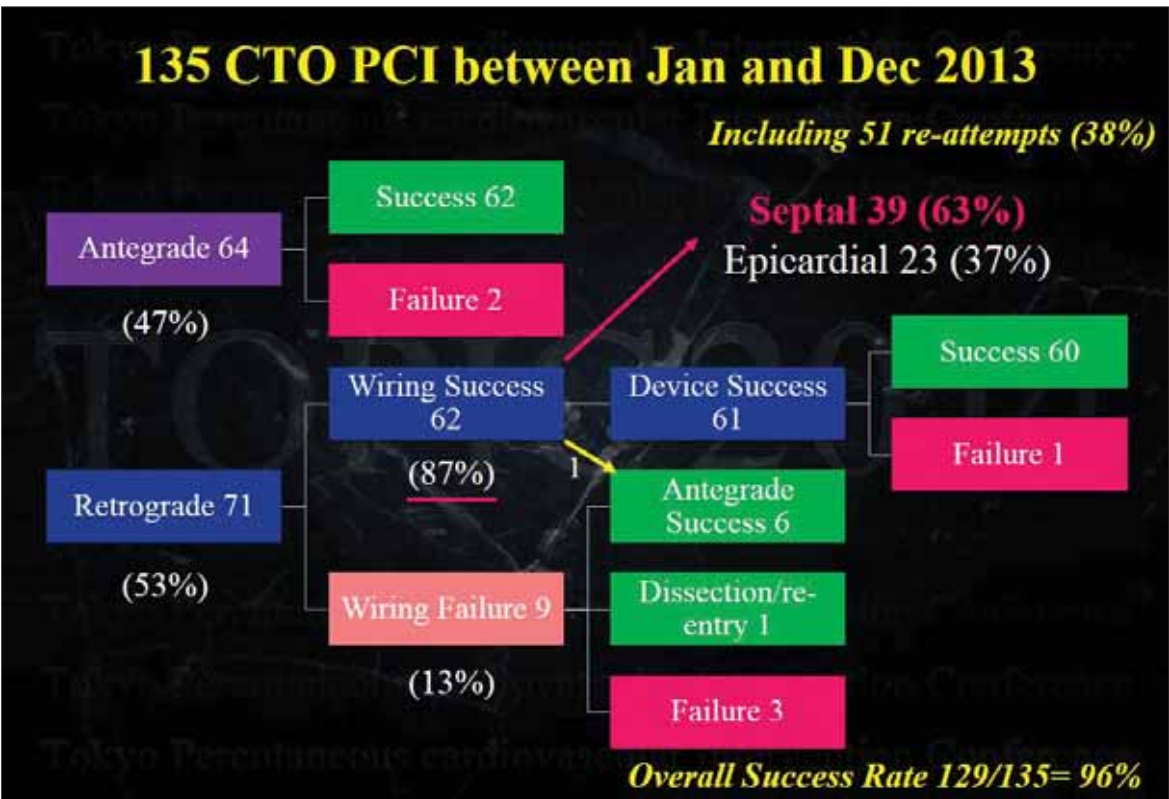


Figure 3.

wires deflect easily. If I find this phenomenon, I change the wire direction thanks to its 1:1 torque response and try again to keep it straight to pass through intimal space. In other words, tactile feelings are now translated into visual preception. A Crusade dual lumen catheter has been

used in bifurcation PCI for many years. Recently, this device is found to be quite useful in CTO PCI too. Yes, CTO is frequently located at bifurcation, which is quite natural considering its pathophysiology. If you find even a small side branch close to CTO, I recommend you to put a

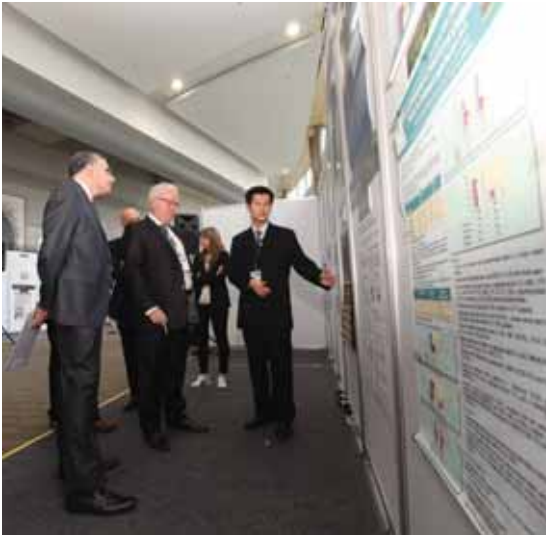
Continued on page 11

⟨Highlights from Yesterday⟩

Moderated Poster Abstract Competition Session on April 22

Starting from this year, the Poster Abstract Session was held as a half-day program on the first day of TCTAP 2014 and was specially moderated by the distinguished experts of the field. Numbers of interesting abstracts were displayed as posters and orally presented by each author along

with interactive discussion and Q & A between presenters and participants. In total, 5 best poster abstracts were selected by moderators at the end of the session and prized with honor. Here are the glorious winners of Best Poster Abstract 2014.



Best Poster Presenter

- Session 1**
Dr. Kevin Kien Hong Quah
- Session 2**
Dr. Jiang Ming Fam
- Session 3**
Dr. Costantino R. F. Costantini
- Session 4**
Dr. Kenji Sadamatsu
- Session 5**
Dr. William KF Kong

The 2nd TCTAP

Best Young Scientist Award

April 24, 10:55AM, Main Arena

Are you curious about the next generation of interventional cardiologist?
Please come and see the second winner of TCTAP Best Young Scientist and congratulate the rising leader of interventional cardiology field!

You can be the next TCTAP Best Young Scientist!

In keeping with its mission to support the young physicians who need to develop and enrich their academic and clinical work experience, TCTAP is presenting TCTAP Best Young Scientist Award annually in the amount of 5,000 USD to the Best Abstract or Case Presenters of TCTAP.

from page 10

floppy wire into it and advance a Crusade. And then, try a CTO wire from its OTW lumen. Penetration force of the CTO wire with “side-branch Crusade” is much stronger than the one with a conventional micro-catheter. Parallel wire technique has been applied in antegrade PCI as well. Recently, when my 1st wire migrates into sub-intimal space, I always put a Crusade over it and try the 2nd wire from its OTW lumen. The Crusade provided more stable platform for parallel wire technique as well. Thirdly, a Navifocus IVUS catheter became available in Japan. This low pro-

file IVUS with mechanical scan (40MHz) and clear images can be used together with a Corsair in a large bore 7Fr guiding catheter. Now, we do not need an 8Fr system even in antegrade IVUS guided wiring. This will contribute to decrease the access site complication and the amount of contrast in CTO PCI. What about strategy? As all people realize, retrograde approach has been the biggest breakthrough in CTO PCI in these 10 years. Once a retrograde micro-catheter is delivered into the distal vessel of CTO, we can expect a high success rate of CTO PCI (>90-95%). IVUS guid-

ed direct retrograde wire crossing is useful in 1/4-1/3 of retrograde cases. If not, we proceed to IVUS guided reverse CART. According to the location of the antegrade IVUS catheter and retrograde system, the IVUS findings are classified into 4 categories: 1) ante: intima, retro: intima, 2) ante: sub-intima, retro: sub-intima, 3) ante: intima, retro: sub-intima and 4) ante: sub-intima, retro: intima. According to these classifications, our next step of retrograde procedures is almost automatically determined to create final connection of ante and retrograde systems. Beside a

retrograde wire, which is in the same sub-intimal space as the antegrade system, it is sometimes unable to pass through because the retrograde wire goes behind the dissection created by antegrade preparation. The best counter-measure for this situation is to put a stent from the point where 2 systems are at the same sub-intimal space in IVUS (stent reverse CART). According to these great advancements of CTO PCI, I was able to achieve an annual success rate of 96% without using intentional antegrade dissection re-entry devices (Fig 3).

What's new in DES Summit 2014?

Wednesday, April 23, 4:30 PM - 5:55 PM, Coronary Arena, Level 1

Vascular Responses of Contemporary DES: Same or Different to First-Generation DES?



In the DES Summit 2014, Dr. Renu Virmani (CVPath Institute, Inc.) will present a very important topic regarding vascular response of contemporary DES.

Percutaneous coronary interventions involving stenting, particularly with drug-eluting stents (DES), are the most widely performed procedures for the treatment of symptomatic coronary disease; however, concerns still exist about the long-term safety of DES technology.

Pathologic studies have identified delayed arterial healing with poor strut coverage as the primary substrate responsible for late and very late stent thrombosis (LST/VLST) following the first generation DES placement, whereas recent human autopsy studies have demonstrated that the second generation everolimus-eluting stents (EES) exhibit greater strut coverage with less inflammation, less fibrin deposition, and lower frequency of LST/VLST compared with the first generation sirolimus- and paclitaxel-eluting stents. Nevertheless, neoatherosclerosis and stent fracture remain issues even in the second-generation EES and careful long-term follow-up remains important even after newer-generation device placement. Biodegradable polymer-coated DES, polymer-free DES, and fully bioresorbable vas-

cular scaffold show promising results in preclinical studies, with effectively suppressed neointimal growth and low grade inflammation and fibrin deposition. Bioresorbable vascular scaffold shows a unique ability to allow for lumen enlargement in a porcine coronary model, thus distinguishing the device from metallic stents. However, the safety and efficacy of the fully bioresorbable vascular scaffolds need to be investigated in large clinical trials involving patients with complex atherosclerotic lesions.

This lecture will suggest valuable pathologic information to develop newer generation DES with more safe and efficacious profile in the near future.

How Long DAPT Now and Future?

The most important clinical issue in the DES era is regarding optimal duration of



dual antiplatelet therapy (DAPT), which is crucial for balancing bleeding and ischemic events. Dr. Cheol Whan Lee (Asan Medical Center, Korea) will present and will summarize a recent update of

optimal duration of DAPT after DES implantation. DES substantially reduces the risk of restenosis and the need for repeat revascularization compared with bare-metal stents. However, there has also been concern about the risk of late stent thrombosis after DES implantation. After the safety and efficacy of these devices were

extensively investigated, it was suggested that prolonged dual antiplatelet therapy (DAPT) should be given for at least 12 months after DES implantation. However, this recommendation was largely based on registry data.

There have been several randomized controlled trials that compare short- versus long-term durations of DAPT in patients receiving DES. The EXCELLENT, the PRODIGY, and the RESET trials tested different durations of DAPT after implantation of DES, showing that short-term DAPT is not inferior to long-term DAPT. However, these trials were relatively small and underpowered to detect significant differences in hard clinical outcomes. The DES LATE trial compared the effect of 12 months versus > 12 months of DAPT in a relatively large number of patients who had received DES. The two treatment strategies did not differ in terms of the primary endpoint (death from cardiac causes, myocardial infarction, or stroke) with a potential risk of major bleeding. These findings support the notion that the benefits of DAPT after implantation of DES may not extend beyond 12 months. Currently, a large-scale DAPT (Dual Antiplatelet Therapy Study) trial is ongoing to address questions about the appropriate duration of DAPT in patients who have received DES. At present, the current guidelines recommend that DAPT should be given either for 6–12 months or at least 12 months after DES implantation unless patients are at high-risk for bleeding. However, long-term DAPT certainly increases the risk of bleeding complications, requiring a delicate balance between anti-

ischemic benefits and bleeding risks. DES technology has rapidly advanced over the past decade and late stent thrombosis may be less of a clinical issue with the use of new-generation DES. A marked risk reduction for very late stent thrombosis with everolimus-eluting stent compared with previous DES (sirolimus- or paclitaxel-eluting stents) was observed in a large registry of 12,339 consecutive patients. Furthermore, new-generation DES have been shown to be even safer than bare-metal stents. It has been shown that the risk of stent thrombosis after DES implantation is not a linear function of time. Stent thrombosis mostly occurs within 1 month after DES implantation and then rarely 3 months after the index procedure. Previous DES is no longer used in routine clinical practice and therefore the issue of whether a longer duration of DAPT is warranted in the current DES era requires further study. There is a growing body of evidence that continuation of DAPT beyond 6-12 months is not beneficial in patients treated with DES. Recently, the OPTIMIZE trial demonstrated that in patients with stable coronary artery disease or low-risk acute coronary syndrome treated with zotarolimus-eluting stents, 3 months of DAPT was noninferior to 12 months for major adverse cardiac events, without significantly increasing the risk of stent thrombosis. These findings suggest that the duration of DAPT can be further shortened in patients treated with new generation DES. However, further studies may be needed to determine optimal duration of DAPT in the era of new generation DES.

⟨Highlights from Yesterday⟩

Fellowship Training Course

Evolving from Left Main PCI to Endovascular Intervention

Tuesday, April 22, 10:00 AM – 4:30 PM, Coronary Arena, Level 1

TCTAP continues to grow and evolve, emulating the field of interventional cardiology itself. This year, TCTAP fellowship course broadened the reach of angioplasty from left main and bifurcation PCI to endovascular intervention. The sessions took place from 10:00 AM to 4:30 PM on Tuesday with great attention by fellows and young cardiologists. The courses, which were divided into themes, feature lectures by specialist as well as answered questions that enable attendees to assess their current knowledge.

Left Main & Bifurcation PCI

Seung-Jung Park, MD, PhD (Asan Medical Center, Korea), served as guiding lights as interventional cardiologists designed the course of Left main and bifurcation PCI. Dr. Michael S. Lee presented various tips about selection of guiding catheter and angiography interpretation. Dr. Soo-Jin

Kang provided valuable lessons of invasive imaging tools in LM PCI. A number of recent meta-analyses have begun to shed light on some outstanding questions with regard to DES. Dr. Seung-Jung Park showed the result of meta-analysis of LM PCI using DES vs CABG. Dr. Corrado Tamburino presented the importance of risk stratification for left main revascularization. Jacques J. Koolen presented practical tips and techniques about 2-stent strategy including minicrush, crush, culotte and TAP. Dr. Bon-Kwon Koo showed the utility of FFR and IVUS in non-LM bifurcation PCI. Dr. Joo-Yong Hahn presented the Know-how to predict and prevent side branch occlusion.

Imaging & Physiology

In the Imaging and Physiology Session, Akiko Maehara presented the role of IVUS for pre- and post-intervention. Young-Hak Kim introduced “CT-Perfusion” as the new

diagnostic performance of noninvasive fractional flow reserve (FFR) derived from standard acquired coronary computed tomography for the diagnosis of myocardial ischemia. Gary S. Mintz presented the concept of next generation invasive imaging. Takashi Akasaka presented the role of OCT for pre- and post-intervention. Gary S. Mintz introduced Near-Infrared Spectroscopy (NIRS) and its clinical application.

Endovascular Intervention

In the Endovascular Intervention Session, Dr. Piotr Odrowaz-Pieniazek presented personal tips and tricks about carotid stenting. John Robert Laird provided important lessons for the EVAR including selection of patient, technical tips, and management of patient. Dr. Richard R. Heuser lectured about “lower extremity intervention.” Krishna Rocha-Singh showed the current evidence for

management about renal artery stenosis. Fellowship training course was a unique opportunity for attendees to listen to lectures reviewing established knowledge as well as discussion of techniques and guidelines. “We plan to feature information that will help young cardiologist and vascular interventionists understand where we are going,” said Dr. Seung-Jung Park.



⟨Highlights from Yesterday⟩

Partnership Session with International Societies

This year, increased numbers of international societies and meetings play an active role in organizing international partnership sessions for TCTAP2014. Please see below session description of some of the participating groups.

Cardiological Society of India (CSI)

This year, CSI is undertaking the session “Momentary Lapse of Reason - Mortality Session.” The most dreaded nightmare in the cath lab is undoubtedly one with a fatal outcome. Unfortunately, anybody who really has a significant volume of PCI has faced this scenario, however skilled he / she may be. But, there is a tendency to brush them

under the carpet. Thus, these cases are never discussed in any forum or any conference except the mortality session. These are the very cases where there is maximum opportunity to learn. Fortunately, as we end the old order and usher into a new era, there are individuals who are not afraid to be wrong, who are not afraid to own up to a responsibility (rather than thrust it upon somebody), who are willing to learn from their and others mistakes, and who are able to troubleshoot without being judgmental. It is keeping in mind these courageous physicians who possess strength of character that we have designed this session. Herein, we were able not only to discuss what went wrong (whether it was a wrong selection of case, wrong selection of hardware or technique), but also where exactly did it go wrong and finally what could have been done to salvage the situation, if at all possible.

Sundeep Mishra, MD

Hong Kong Society of Transcatheter

Endocardiovascular Therapeutics (HKSTENT)

With the same enthusiasm and passion, we are pleased to co-organize a Partnership Session HKSTENT at TCTAP 2014 with CVRF. The session included a Physiology & Imaging Forum: From Risk Stratification to PCI optimization. Renowned experts were invited to deliver lectures on CT-FFR and iFFR and the ways to optimize PCI result with IVUS and OCT. We selected 3 cases to be presented in the BEST of CICF 2014 session. International experts were invited to discuss various techniques to manage the complications. It was another educational and interactive session.

Li Wah Tam, MD

Taiwan Transcatheter Therapeutics (TTI)

The success rate of percutaneous coronary intervention (PCI) has improved much in the past decade through the sophistication of PCI skills and the availability of various

devices. It is our pleasure to have a partnership with TCTAP2014. The experts from Taiwan Society of Cardiovascular Interventions (TSCI) presented their tricks in performing difficult cases of chronic total occlusion (CTO). You received first-glance image on these cases from their titles: an unusual way of retrograde wiring before rotablation, application of home-made loop snare in RCA-CTO intervention, double-guiding catheters in RCA CTO revascularization, and rescuing acute complication in LAD CTO intervention. These cases received the Best Awards in 2014 TTT (Taiwan Transcatheter Therapeutics) and will attract your interest in tackling tough CTO cases. The second part of TSCI joint symposium introduced the devices in facilitating the PCI procedures including when and how to use Guideliner, Crusade catheter, the tips in implementation of two stents technique in true bifurcation lesions, and finally presenting several complex left main lesion PCI cases. The presenters are experienced hands from different high-volume PCI centers in Taiwan and chairpersons joined the

Continued on page 13

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discussion to make this symposium more informative to the audience of TCTAP2014 . The session was co-chaired by Immediate Past President of TSCI Prof. Jun-Jack Cheng at Shin-Kong Wu Ho-Su Memorial Hospital and newly elected President Prof. Juey-Jen Hwang at National Taiwan University Hospital and their colleagues.

Juey-Jen Hwang, MD

Bangla Interventional Therapeutics (BIT)

TCTAP 2014 offers an opportunity to present the works done currently in the international session, exchange views, and share experiences in the global context. The quality of the BIT at TCTAP 2014 scientific session was outstanding and covered the latest updates and interesting cases. Cases like multivessels angioplasty in post CABG patient, complex multivessels PCI, management of spontaneous dissection of left main, LAD, LCX after guide catheter engagement, double jeopardy catheterization lab disaster, complex left main bifurcation intervention, intervention of totally

occluded renal artery, in-stent restenosis of proximal LAD in place of previous case, IVUS guided critical left main stem angioplasty, and battle against atherosclerosis, etc. were presented.

Actually this session was the first joint collaboration between TCTAP and BIT and hopes to ensure more vibrant symbiosis in future.

Afzalur Rahman, MD

Indonesian Society of Interventional Cardiology (ISICAM)

In the last few years, the Indonesian Society of Interventional Cardiology (ISIC) had routinely participated in International Joint Session in TCTAP. In our session we share our cases and discussed them with local and international panelists and audiences in the established TCTAP event. We believe that every country has unique cases and experiences often not encountered in other places and by sharing them with our colleagues we all could learn something new to provide better management plan for our

patients. Ten interesting cases were presented in the field of coronary, peripheral, and structural cases in this session.

I also would like to remind all participants that ISIC, under the collaboration of Asia-Pacific Society of Interventional Cardiology (APSIC), will host The 10th Asian Interventional Cardiovascular Therapeutics (10th AICT) 2014 in Jakarta-Indonesia, from 27 – 29 November 2014 at the Ritz Carlton Hotel. The theme of this coming event is “Implementing Global vision to regional strategy to achieve optimal Cardiovascular

Intervention outcome.” This annual event is an excellent opportunity to further strengthen our collaboration among cardiovascular interventionists and related industry in the Asia-Pacific region, a continuously growing area where we all are facing similar challenges and problems.

We will devote our utmost efforts to provide a rich scientific environment for learning, sharing and also to build networking in Asia-Pacific Intervention field. You will find your participation meaningful and memorable.

Doni Firman, MD



CVRF BOOTH

1F, Lobby

CVRF Events
Letters to TCTAP 2015
 Write congratulations message to celebrate the 20th anniversary of TCTAP in 2015!
 Your post will be saved and be put on display for next year's event.
 The mailbox is placed at CVRF booth.
 Join us for your special experience.

Operating Hours

Tuesday 22	8:00 AM – 7:00 PM
Wednesday 23	6:00 AM – 7:00 PM
Thursday 24	6:00 AM – 7:00 PM
Friday 25	6:00 AM – 12:30 PM

Event Map

Abstract & Case Zone

Let's Find Out Event @ Exhibition Hall

Exhibition Hall Running Hours:
 April 22, 10:00 am ~ 6:00 pm
 April 23~24, 9:00 am ~ 6:00 pm

Photo Wall

Lounge

Happy Hour

Congress Bag

Happy Hour

Save the Dates!
 April 22~23, 3:00 pm
 April 24, 10:00 am / 3:00 pm

Int'l Partnership Session CCT & CIT@TCTAP 2014

April 23, 2:00 PM- 6:00 PM, Room 1-2, Level 1

While having strong affiliations with international academic groups over the years, TCTAP has expanded the partnership sessions and especially this year, there will be highlights sessions co-organized by the Complex Cardiovascular Therapeutics (CCT) group and the China Interventional Therapeutics (CIT) group. The CCT Session entitled "Improve Success of CTO PCI," chaired by renowned Japanese and Korean CTO experts including Satoru Otsuji, MD of Higashi Takarazuka Satoh Hospital, Kinzo Ueda, MD of Rakuwakai Marutamachi Hospital and Etsuo Tsuchikane, MD of Toyohashi Heart Center, will feature lectures on preparation for CTO PCI and techniques to improve antegrade success, and case presentations will be given by Japanese CTO specialists to provide practical learning tips for daily practice.

The CIT Session, which newly joined as one of the partnership sessions, will feature an array of eminent experts in the field from around the world and cover essential lectures and case presentations on the topic of "Optimization of Left Main PCI in 'Real World' Practice" under the leadership by Shuzheng Lu, MD of Beijing Anzhen Hospital and Bo Xu, Director of Catheterization Lab of Cardiovascular Institute and Fu Wai Hospital. Attendees will experience various and in-depth specialized programs of each international society and TCTAP will continuously strengthen and expand these academic exchanges and collaboration as the leading interventional cardiology meeting, representing the Asia-Pacific region.

6th Chien Foundation Award to be given to Dr. Spencer B. King III

Wednesday, April 23, 5:55 PM - 6:00 PM, Coronary Arena, Level 1



Dr. Spencer B. King III (Emory University School of Medicine, USA) was selected for the 6th Chien Foundation Award for Outstanding Lecture-ship & Lifetime Achievement in PCI at TCTAP2014.

The presentation of this honored award will take place on April 23(Wed) at the Coronary Arena, Level 1, at 6:00 pm. Dr. Spencer King is a pioneer in cardiac catheterization and coronary arteriography. He was also co-developer of the multi-purpose technique of coronary arteriography and has directed invasive and interventional cardiology training. Dr. King served as Director of the Cardiac Catheterization Laboratory of Emory University Hospital from its inception

through 2000 and was Director of Interventional Cardiology and the Andreas Greuntzig Cardiovascular Center at Emory University from 1985 until 2000. Dr. King is also author of over 500 papers on cardiology, has edited or co-edited ten books including Interventional Cardiology and Hurst's The Heart 12th Edition both published in 2007. He is Editor-in-Chief of the Journal of the American College of Cardiology: Cardiovascular Intervention, is associate editor of JACC and is on the editorial board of seven other journals including Circulation. He has served as principal investigator or member of the steering committees of 15 national and international clinical trials in cardiology, as well as conducting the first NHLBI trial of coronary angioplasty versus bypass surgery.



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Endovascular Symposium

More Interest and More Debate: Lower Extremity

Wednesday, April 23, 2:00 PM – 6:00 PM, Endovascular & Structural Heart Theater, Level 1

There remains a myriad of technologies available to treat either occlusive or stenotic lesions in the lower extremity. These technologies include simple angioplasty to stenting and further to drug coated balloon technologies. Alternatively, debulking strategies are also approved for this anatomic indication. Regardless of technology, what is clear is that the treatment of symptomatic lower limb atherosclerosis has become primarily endovascular. What remains unclear is does any one device have the “gold” standard designation and why?

Superficial Femoral Artery: Which One is Better?



Lawrence A. Garcia MD., Ph.D. (Tufts University School of Medicine, Boston, USA) briefly will review the current data results and suggest the role of atherectomy

device in nettlesome lesion. When we review the data set for stenting in the SFA we are met with what is unfortunately, relatively short non-real world lesions that have little impact on the practice of medicine every day. What these trials have done are simply to allow an indication for the device in the United States—RESILIENT (LL 5.7cm), ZILVER PTX (LL 5.3cm), SUPERB (8.1cm). When we infer the data for our patients with lengthy lesions we are relegated to registry data or one randomized trial (VIBRANT 19.6cm). In either case, the stenting approach has not been met with long term benefit. Further, we now have the durability date out to 3 years for BMS

(STROLL) and 4 years in the DES group (Zilver PTX). In each group, the landing seems to be 70%. Atherectomy, the definition leaves nothing behind and the lack of scientific data for this kind of intervention, ceased in 2012 with the presentation and release of the DEFINITIVE LE data. This 800 patient registry enrolling patients with claudication and critical limb ischemia with no limit on lesion length except for over 20 cm. To that end, the patients were robust enough to separate out the short, medium, and long lesions and seek identification of outcome as to a patency. Further, the study was pre-powered not ad hoc assessed to evaluate the benefit of an up-front strategy of atherectomy for patients with diabetes to those without who presented for claudication. The outcome here showed no difference between these groups in each of the short, medium or longer lesions despite having longer overall lesion lengths and more occlusions. The overall patency among all claudicants was 78.1% using a PSVR metric of 2.4 and lesion length of 7.5 cm (recalling that this includes all lesions above and below the joint space) treating 800 patients and over 1,000 lesions.

Thus overall, taken in context of the scientific landscape, DEFINITIVE LE on its own provides a similar outcome compared with the stent trials that have presented/published before it. Further, the combination therapy of atherectomy with drug coated balloon (DCB) has currently completed enrollment in the DEFINITIVE AR study and we eagerly await these results. In both of the atherectomy trials, the stenting rate is under 4% which makes them a true assessment of the out-

come of atherectomy where we can compare it to other devices. Understanding the limitations of this type of debate is important. First, no trial to date has been a direct comparator trial between devices except angioplasty. Second, the heterogeneity of all trials makes these inferences problematic. What can be said is simply that when we place an endoprosthesis these devices are permanent and the failure mode whether thrombotic or stenotic is generally recurrent. The failure mode of atherectomy is simple restenosis that can be managed with all devices and no bridge has been burned.

Below The Knee: More Device and Which Strategy



Massimiliano Fusaro, MD.,Ph.D. (Deutsches Herzzentrum, Munich, Germany) will present the value of DEB and DES in below-the-knee intervention. Patients

suffering from atherosclerotic disease of below-the-knee (BTK) arteries represent an important challenge due to compromised functional status, coexisting morbidities, and poor outcomes. The guideline writing authorities recommend that in association with the management of baseline risk factors and comorbid conditions, endovascular therapy (EVT) should be preferred over surgery in patients with BTK atherosclerotic disease requiring revascularization. Endovascular revascularization has become a first-line treatment option in patients with symptomatic BTK disease, by virtue of the superior feasibility and the similar efficacy as compared to surgery. The limb salvage is the primary indication for endovascular treatment. Indeed, there is increasing evidence to support endovascular therapy in this setting if it can ensure a straight-line flow to the foot in at least one BTK artery. EVT falls under the broad category of minimally invasive surgery, making it more attractive to patients. The main advantages of EVT are the possibility to treat a multilevel disease with low complication and high technical success rates (even in cases of diffuse disease) as well as with encouraging mid- to long-term clinical outcome. In the past decade, patients with symptomatic BTK disease would have under-

gone surgical revascularization provided their general condition allowed it; if not, they would either receive no treatment or perhaps undergo amputation. As opposite to surgery, endovascular therapy can be offered to patients with symptomatic BTK disease even if general conditions are poor, as in aged populations. Furthermore, patients with failed conduits after surgery can be feasibly treated with endovascular therapy with significant improvement in terms of limb salvage rates. This latter represents a reasonable indication for endovascular therapy especially in those patients with poor target vessels, conduits, or exceeding surgical risk, as typical in patients suffering critical limb ischemia (CLI) due to BTK disease. Although in the last years percutaneous revascularization has become synonymous with stenting, in BTK disease plain balloon angioplasty still remains the treatment of choice due to diffuse nature of atherosclerosis in this arterial district. However, there is recent evidence that the use of balloon or stents coated with anti-proliferative drugs could prolong the durability of results and could save limbs of patients with CLI. However, larger data with extended follow-up are required. It is conceivable that both the development and the amelioration of devices ensuring a longer durability of results will further burst the widespread adoption of endovascular therapy, widening the spectrum of those patients suitable for a minimally invasive revascularization.



Osamu Iida, MD.,Ph.D. (Kansai Rosai Hospital Cardiovascular Center, Japan) will present about the impact of angiosome-oriented revascularization on clinical outcomes in patients with critical limb ischemia without concurrent wound infection and diabetes mellitus. In real situation, interventionalists have concerns about which artery or how many arteries must be opened during procedure for limb salvage. Use of the angiosome concept is associated with satisfactory clinical outcomes in revascularization of patients with CLI, apparently being more clinically efficacious and meaningful in EVT than in bypass surgery (BSX). BSX provides rapid and sufficient blood flow to the wound as well as long-term durability, however, angiosome-based BSX impacts wound healing

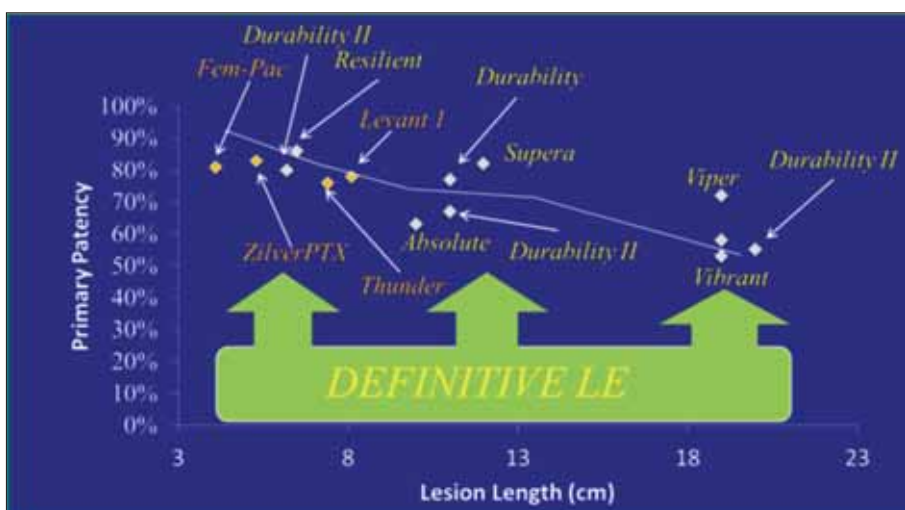


Figure 1.

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References 1. J Clin Hypertens(Greenwich) 2009;11:1-7 2. Blood Press Monit 2010;15:205-212 3. The ONTARGET Investigators. *N Eng J Med* 2008;358(15):1547-1559
4. Prescribing information of ARBs provided by KFDA(<http://ezdrug.kfda.go.kr>)

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only while other outcomes such as major limb amputation are unaffected. Less-invasive EVT alone does not achieve similar satisfactory levels of blood flow and durability as BSX, however, angiosome-based EVT impacts major clinical outcomes including incidence of major limb amputation and major adverse limb event (MALE) as well as amputation-free survival (AFS). Our study reported that in patients presenting with concurrent diabetes and wound infection, indirect endovascular revascularization (IR) resulted in poorer limb prognoses than direct revascularization (DR). However, CLI patients with both concurrent diabetes and wound infection constitute a minority population in the clinical setting and it remained undefined whether the same is true, specifically for complete wound healing and amputation-free survival (AFS), in patients other than those with both diabetes and wound infection. In this study, we examined the impact of angiosome-oriented revascularization on clinical outcomes including wound healing and AFS in CLI patients with isolated infrapopliteal lesions excluding those with both diabetes and wound infection. The analysis for the current study was

based on data extracted from a multicenter database of 555 consecutive CLI patients, with ischemic tissue loss (i.e., Rutherford class 5 or 6) due to isolated infrapopliteal lesions, who had none or either, but not both diabetes mellitus and wound infection. Outcome measures including complete wound healing, amputation-free survival (AFS), and freedom from MALE (major adverse limb event) were compared between direct and indirect revascularization. To minimize differences in baseline characteristics, propensity matching analysis was performed and matched data were analyzed. Complete wound healing rate was $72\pm3\%$ in the direct revascularization (DR) group versus $61\pm4\%$ in the indirect revascularization (IR) group at 12 months ($p=0.02$). The median time to wound healing was 176 days (95% CI: 115 to 237 days) in the IR group and 110 days (95% CI: 71 to 149 days) in the DR group. AFS and freedom from MALE were assessed for up to 4 years as shown in Figures 3 and 4. AFS ($74\pm3\%$ vs. $70\pm3\%$ at four years, $P=0.17$) and freedom from MALE ($59\pm4\%$ vs. $58\pm4\%$ at four years, $P=0.89$) were not significantly different

between the DR and IR groups. Therefore, we concluded that after propensity matching analysis for CLI patients other than those with both diabetes and wound infection,

wound healing rate was statistically higher in the DR group than in the IR group, whereas MALE and AFS were not significantly different.

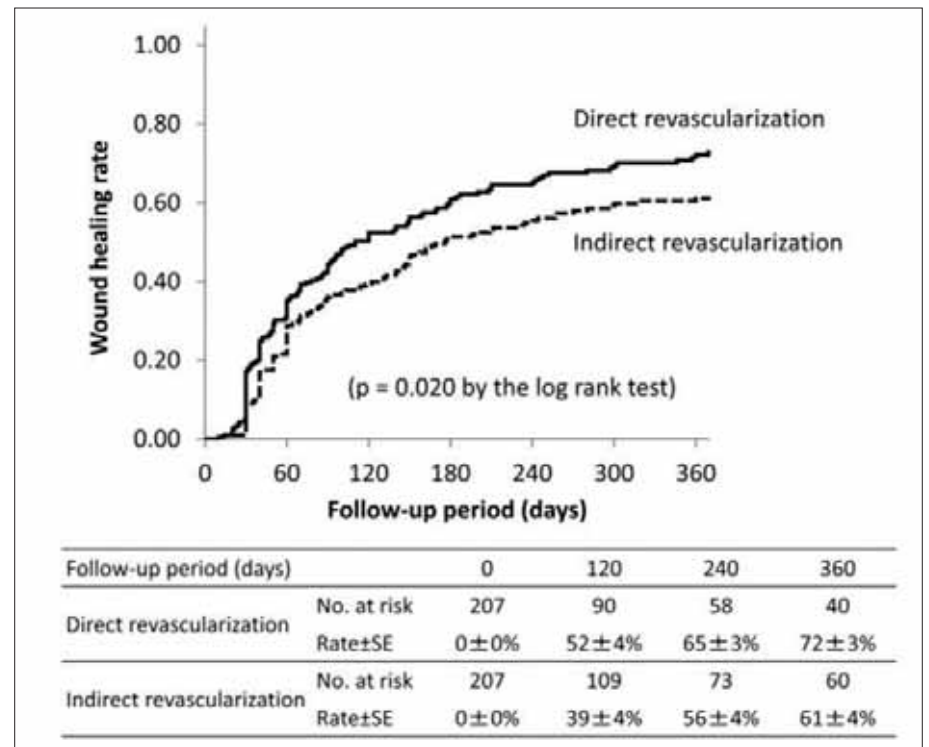
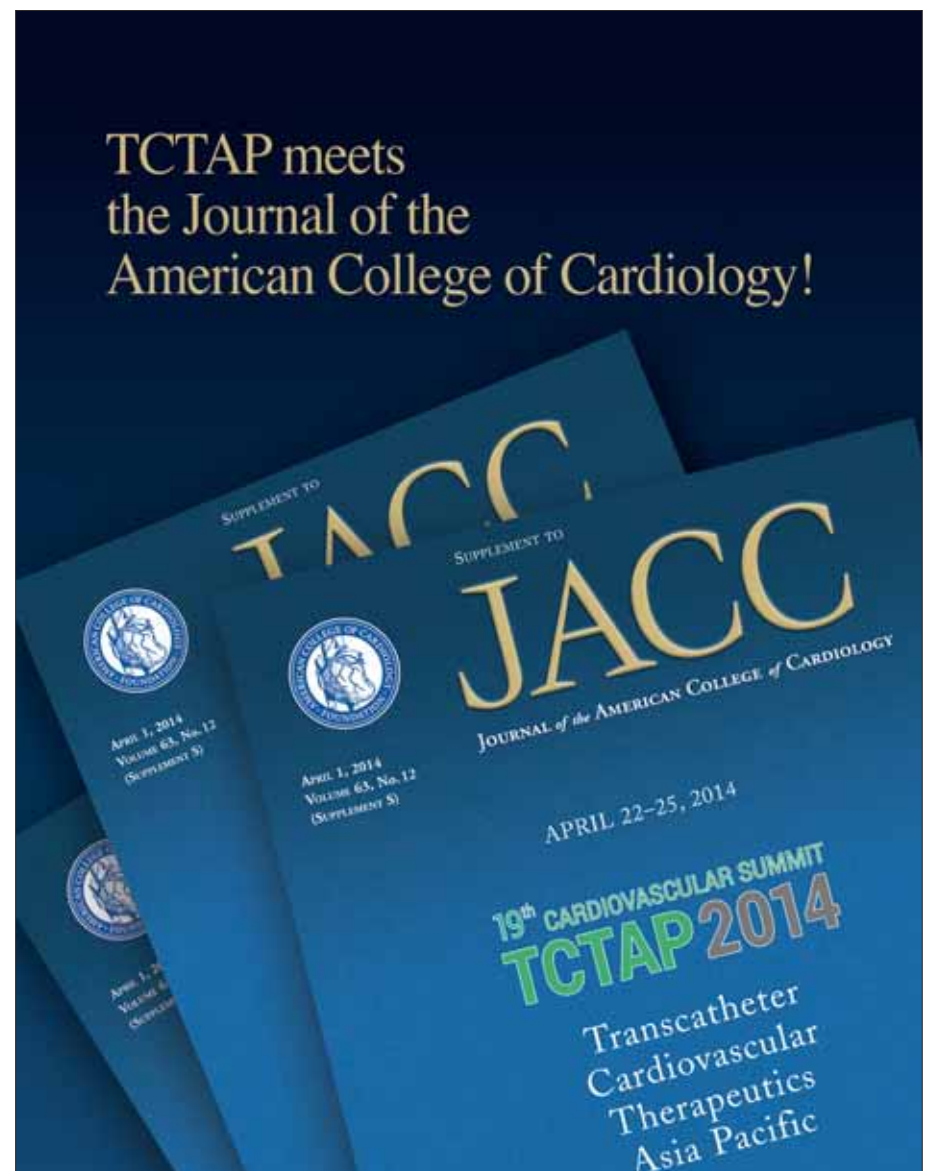
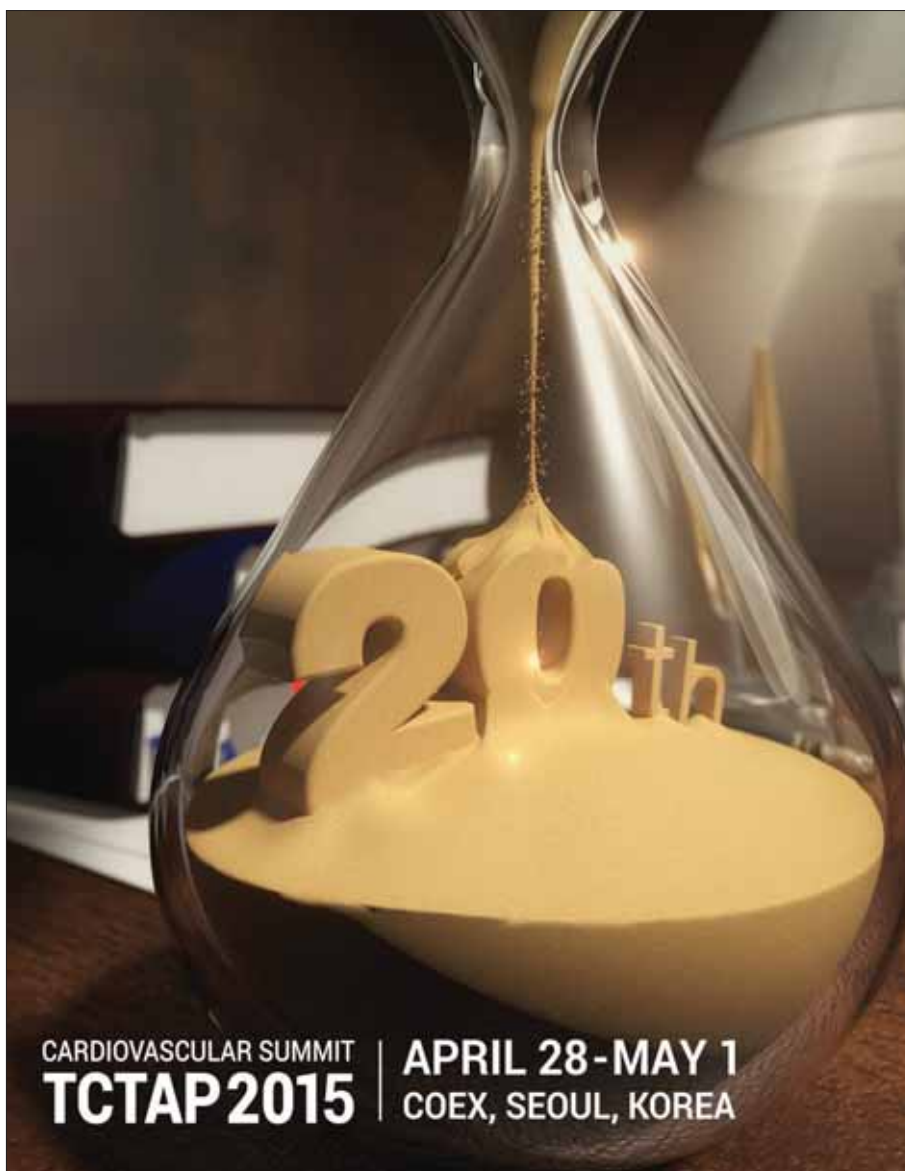


Figure 2.







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Place

atrium (Training Center), 3rd Floor, East Building,
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