The
Heart Beat
From CardioVascular Research Foundation

CVRF Newsletter
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Inside TCTAP 2014
'Gear Up for the Next Innovation'

The history of the TCTAP is a history of unceasing change and evolution. In order to provide high quality research and scientific resources, professional interactions for the advancement of science and other memorable experience for the participants from all over the world, the TCTAP has been trying to keep up with innovation for the future. For almost two decades it has been grown up in both academic quality of higher education and size of a meeting which draws thousands of attendees. TCTAP attracts researchers and practioners from academic public and private sectors from 50 different countries in Seoul, every April, and about half of total reported attendees come from outside Korea.

Here comes another step-up innovation of the TCTAP 2014.

More Global Partners

As the leading name representing interventional therapy, the TCTAP 2014 continues to expand its collaboration with global partners. It is expected to help fulfill the mission to facilitate research, education and collaboration with global partners for the benefit worldwide. The prominent interventional cardiologists in each country get involved in planning and designing its session for the purpose of introducing and sharing their current techniques and best practices to audiences with different backgrounds, cultures and experience.

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PAPER PUBLICATION

ASAN PCI Registry
Fewer Stents and Better Outcomes after Routine FFR Measurement Data

Eur Heart J. 2013 Nov;34(43):3353-61

During the past 30 years, PCI (Percutaneous Coronary Intervention) has become one of the standard 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.

FFR (Fractional Flow Reserve) 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.

The FAME (Fractional Flow Reserve Versus Angiography for Multivessel Evaluation) study was the only prospective, randomized trial designed to determine whether FFR guided PCI was superior to angiography guided PCI in a total of 1,005 multi-vessel disease patients. The rates of primary outcomes (13.2% vs. 18.4%, p=0.02) and the combination of death or MI (7.3% vs. 11%, p=0.02) at 1 year were significantly lower in the FFR guided PCI than in the angiography guided PCI group, which was maintained at 2 year follow-up. FFR guided PCI strategy was also demonstrated to be beneficial in bifurcation disease and small vessel disease. Another benefit of FFR guided PCI is less use of stent implantation with achieving favorable clinical outcomes. Economic evaluation of the FAME study demonstrated that FFR guided PCI in patients with multivessel coronary disease was associated with improvement of outcomes and saving the resources. This result mainly was derived from the more tailored use of stent implantation and thus avoiding procedure related complications. Recently stent overuse and appropriate use of PCI procedure have been an important issue in contemporary medical society. FFR guided PCI would be an important strategy to realize more appropriate stent procedure.

(See ASAN PCI Registry, Page 4)

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Inside TCTAP 2014

From Basic Principles to Advanced, the Latest Concepts

It is proud to offer the most comprehensive fellowship program on Left Main and Bifurcation PCI, Imaging and Physiology and Endovascular Intervention. It is specially designed for fellow and those who are early in their medical careers and need step by step learning points of each topic. The talks and tips given by world-renowned scientists and teachers in each field help the participants obtain exposure to all catheter-based interventions for vascular disease.

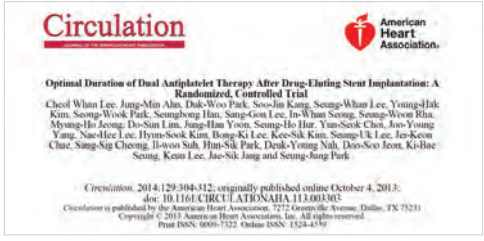
TCTAP Awards

The 'Master of the Masters' Award was initiated in 2011 to recognize and acknowledge its meaningful contribution to the field of cardiology medicine as well as to the growth of the TCTAP in many ways. Drs. Masakiyo Nobuyoshi, Martin B. Leon, and Antonio Colombo were honored as the recipient in the past three years. The 4th award recipient will be discovered during the meeting.

In addition, the 2nd TCTAP Best Young Scientist Award ceremony will also take place in the main arena during the TCTAP 2014. This award is intended to acknowledge, recognize and encourage mid-level young clinical investigators whose academic clinical research or case study can lead to the development of cardiovascular medicine. For this award there were 40 young physicians applied from 6 countries this year. The final recipient will receive a $5,000 scholarship and certificate of recognition.

2014 Publication

Optimal Duration of Dual Antiplatelet Therapy after Drug-eluting Stent Implantation


Circulation

American Heart Association.

Optimal Duration of Dual Antiplatelet Therapy After Drug-Eluting Stent Implantation: A Randomized, Controlled Trial

Cheol Whan Lee, Jung-Min Ahn, Duk-Woo Park, Soo-Jin Kang, Seung-Whan Lee, Young-Hak Kim, Seong-Wook Park, Seungbong Han, Sang-Gon Lee, In-Whan Seong, Seung-Woon Rha, Myung-Ho Jeong, Do-Sun Lim, Jung-Han Yoon, Seung-Ho Hur, Yun-Seok Choi, Jeo-Young Yang, Nae-Hee Lee, Hyun-Sook Kim, Bong-Ki Lee, Kee-Sik Kim, Seung-Uk Lee, Jei-Keon Chae, Sung-Sig Cheong, Il-Suon Suh, Hun-Sik Park, Deuk-Young Nah, Doo-Soo Jeon, Ki-Bae Seung, Keun Lee, Jae-Sik Jang and Seung-Jung Park

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Drug-eluting stents have been shown to be superior to bare metal stents in terms of patient outcome, as they are associated with lower repeat revascularization rates and similar rates of death and myocardial infarction. However, there is concern regarding the risk of late stent thrombosis after drug-eluting stent implantation.

After the safety and efficacy of these devices were extensively evaluated, it was suggested that prolonged dual antiplatelet therapy should be given for at least 12 months after implantation of drug-eluting stents. At present, the guidelines recommend that dual antiplatelet therapy should be given either for 6–12 months, or at least 12 months, after drug-eluting stent implantation, unless patients are at high-risk for bleeding. However, these recommendations are largely based on registry data and the optimal duration of dual antiplatelet therapy remains poorly defined.

In a registry study from Duke University, patients who had received drug-eluting stents and who were then given clopidogrel for more than 12 months had a lower risk of death or myocardial infarction than those who received clopidogrel for less than12 months; this was not observed for patients who received bare metal stents. The EXCELLENT (Efficacy of Xience/Promus Versus Cypher to Reduce Late Loss After Stenting) trial, where 1,443 patients who had received drug-eluting stents were given 6 months or 12 months of dual antiplatelet therapy showed the 6-month therapy was not inferior to the 12-month therapy in terms of the rate of target vessel failure at 12 months. Similarly, in the PRODIGY (Prolonging Dual Antiplatelet Treatment After Grading Stent-Induced Intimal Hyperplasia Study) trial, 2,013 patients were treated with four different types of stents and then randomly allocated to receive 6 or 24 months of clopidogrel therapy in addition to aspirin. There was no benefit associated with continuing clopidogrel therapy compared to when clopidogrel was discontinued after 6 months. However, dual antiplatelet therapy for 24 months was associated with a significantly higher bleeding rate. Moreover, the recent RESET (REal Safety and Efficacy of a 3-month dual antiplatelet therapy following E-ZES implantation) trial showed that 3 months of dual antiplatelet therapy after endeavor zotarolimus-eluting stent implantation was not inferior to 12 months of dual antiplatelet therapy after implantation with other drug-eluting stents. However, all studies to date are underpowered for detection of significant differences in hard clinical outcomes because of the small numbers of patients and the low numbers of clinical events.

We have previously reported that, compared to aspirin alone, continuation of dual antiplatelet therapy for longer than 12 months after drug-eluting stent implantation is not beneficial. Furthermore, the long-term dual-therapy arm was associated with a trend toward increased risk of cardiac death, myocardial infarction, and stroke. To confirm this observation, the Optimal Duration of Clopidogrel Therapy with DES LATE (DES to Reduce Late Coronary Arterial Thrombotic Event) trial was designed. In this trial, we tested the hypothesis that 12-month dual antiplatelet therapy may provide better protection against cardiovascular events than > 12 months of dual antiplatelet therapy after implantation of drug-eluting stents. This is a prospective, multicenter, open-label, randomized comparison trial that was conducted in 24 clinical centers in Korea. In total, 5,045 patients who received drug-eluting stents and were free of major adverse cardiovascular events and major bleeding for at least 12 months after stent placement were enrolled between July 2007 and July 2011. Patients were randomized to receive aspirin alone (n=2,514) or clopidogrel plus aspirin (n=2,531). The primary end point was a composite of death from cardiac causes, myocardial infarction, or stroke 24 months after randomization. At 24 months, the primary endpoint occurred in 57 aspirin-alone group patients (2.4%) and 61 dual-therapy group patients (2.6%) (hazard ratio, 0.94; 95% confidence intervals [CI], 0.66 to 1.35; P=0.75). The two groups did not differ significantly in terms of the individual risks of death from any cause, myocardial infarction, stent thrombosis, or stroke. Major bleeding occurred in 24 (1.1%) and 34 (1.4%) of the aspirin-alone group and dual-therapy group patients, respectively (hazard ratio, 0.71; 95% CI, 0.42 to 1.20; P=0.20).

In this trial, we demonstrated that in stable patients who received drug-eluting stents, 12-month compared with > 12-month dual antiplatelet therapy did not reduce the risk of the composite endpoint of death from cardiac causes, myocardial infarction or stroke. However, there was a trend toward lower risk of major bleeding with the 12-month dual antiplatelet therapy.

The History of CVRF

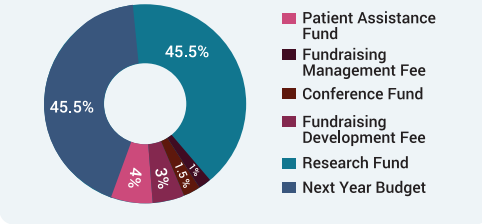
Since its establishment in 2002, CVRF has shown remarkable achievements in research and education.

Now CVRF has received recognition as a outstanding provider of the best solutions for cardiovascular disease.

Year	
2002	- The CVRF (CardioVascular Research Foundation) was founded. - Launched its online learning at SUMMITMD showcasing presentation slides and cases
2003	- A study result of "A Paclitaxel-Eluting Stent for the Prevention of Coronary Restenosis" was published in the New England Journal of Medicine led by S.J. Park, MD, of Asan Medical Center, Korea.
2005	- Held 10th ANGIOPLASTY SUMMIT-TCT Asia Pacific with the support of the CRF group from New York, USA in April
2007	- Held 1st CTO LIVE (Chronic Total Occlusion LIVE) in January - Held 1st Imaging & Physiology Summit in February - Held 1st Left Main Summit in August
2008	- A study result of "Stents versus Coronary-Artery Bypass Grafting for Left Main Coronary Artery Disease" was published in the New England Journal of Medicine led by S.J. Park, MD, of Asan Medical Center, Korea.
2009	- Launched the ACT Program (Asan Medical Center Interventional Cardiology Training Program)
2010	- A study result of "Duration of Dual Antiplatelet Therapy after Implantation of Drug-Eluting Stents" was published in the New England Journal of Medicine led by S.J. Park, MD, of Asan Medical Center, Korea. - Launched CVRF Fundraising project
2011	- A study result of "Randomized Trial of Stents versus Bypass Surgery for Left Main Coronary Artery Disease" was published in the New England Journal of Medicine led by S.J. Park, MD, of Asan Medical Center, Korea. - Held 1st TAVI SUMMIT (Transcatheter Aortic Valve Implantation SUMMIT) in September
2012	-10th Anniversary of CVRF

Introduction to the CVRF Fundraising

In accordance with the CVRF's mission, the CVRF Fundraising was formed in 2010 to provide financial assistance to patients with cardiovascular disease who cannot afford the medications they need and to qualified medical professionals who propose research projects. Most of our funding comes from donations given by individuals and from some percentage of registration fees for the conferences hosted by CVRF. The CVRF Fundraising had supported 180 million won for 9 research projects and 10 million won for 2 patients with cardiovascular disease over 3 years. The following chart briefly shows summary of all projected spending in 2012 and 2013 broken into these six categories.



Today the CVRF Fundraising is comprised of an executive team and a dedicated Board of Directors. CVRF Fundraising's mission is helping people live better lives. A wide range of projects have been achieved by many of individuals and associations over several years to help fulfill this mission of this organization.

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Staff Bulletin

In 2013, we have four new staff members joined the CVRF (CardioVascular Research Foundation).
We would like to introduce Ms. Abby Kim of convention division and Ms. Bella Kim of administrative & accounting division.

What made you decide to start working with this foundation?

Abby: *I took my first step here last year as intern. During my time here I found that the meeting and convention industry are very interesting and wanted to continue to be part of this foundation as I loved the team of people I worked with. After finishing my internship my manager offered me a full-time position and luckily, I got a chance to be a regular member.*

Bella: *Last year, I started working in CVRF as Intern in charge of faculty communication for one of the main event, TCTAP. During my internship, I was totally fascinated by the cooperative atmosphere in this organization and the continuous development of the events organized by this foundation. So, after doing the internship of 5 months, I decided to apply for CVRF wishing to be able to use my overall experience. And now, I am very happy to join in this foundation.*

How the work experience as intern comes in handy in your current job?

Abby: *I have grown in many ways from my internship with CVRF by being exposed to real world issues. I have grown professionally through managing and determining a clear set plan for accomplishing the tasks on time and building professional skills to communicate with international guests. Above all, I was a kind of person who is clumsy but I am getting meticulous in my work after internship.*

Bella: *The benefit of interning at CVRF is that my learning curve is very steep. Since I exchanged a lot of e-mails and phone calls with the international faculty members to arrange their itineraries, I now have been very comfortable communicating with anybody. However, that's not all. I believe the whole internship experience in CVRF is indeed like a good reference book to me.*

Please tell us about your team and your current role.

Abby: *Each of my team members get involved in every single step for planning and organizing events, such as exhibition, scientific program, faculty care, and etc. My primary role is reviewing all scientific submissions to TCTAP and ensuring they are properly presented during the meeting. And I am also responsible for the style and content of Daily Newspaper which will be distributed during TCTAP.*

Bella: *Belonging to administrative & accounting division, I am responsible for the administrative and financial management of CVRF and also for the registration of our annual conferences as well. In general, I am meticulously looking into the expenses incurred in our management team, and trying to satisfy each member's needs in terms of finance. Through a series of these works, I think I am easily able to see what is going on in this company. Especially for TCTAP 2014, I am actively doing communication with our attendees about their registration, payment and accommodation.*

What do you do in your spare time after work?

Abby: *Like any others, I make New Year's resolutions, and I decided to focus on working out to keep in shape in a gym. Also, I sometimes enjoy watching movies with my friends.*

Bella: *After work, I try to improve my physical strength and relieve tiredness. As one of the ways, I usually go to the fitness center or spend the spare time visiting a famous restaurant with friends.*

Continued from Page 1

ASAN PCI Registry

In this study, we demonstrated the benefit of routine FFR measurement using large real world registry. 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. During study periods, 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 routine 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. Therefore, routine measurement of FFR in a daily practice appeared to be associated with a more judicious use of stents and an improvement in clinical outcomes.

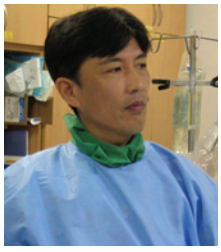
TRAINING PROGRAM

Focus on ACT Program

The ACT Program, which has been developed and implemented in 2009 under the auspices of Heart Institute of Asan Medical Center and CVRF (CardioVascular Research Foundation), has trained hundreds of highly qualified interventionists and all other health-related professionals in the field of cardiovascular medicine. This program consists mainly of live case demonstrations and state-of-the-art lectures featured by key faculty members which are essential for the interventional cardiologists to optimize procedural success. Now this program is widely regarded as one of the best.

729 participants from 28 countries visited ACT program since 2009.

Interview with Dr. Toshiya Muramatsu



Dr. Toshiya Muramatsu, a director of cardiovascular center, Saiseikai Yokohama -City Eastern Hospital in Japan is the invited faculty for this program. He is one of the most active physicians among the top interventional cardiologists, especially the field of CTO (Chronic Total Occlusion). He organizes and operates the TMT (Train Medical Trainers) of PCI (Percutaneous Coronary Intervention), which is one of the distinguished training programs in Japan. He has been joined this program since it had started in 2009.

You have been visiting faculty in this program for 5 years. What was the most important fact that you decided to join this program?

Muramatsu: *I believe educating young cardiologists is very important. That's why I would like to join this educational program.*

What do you think about the strong points of this program compared to others?

Muramatsu: *This program is very concentrating on interventional cardiology and provides many chances to interact with participants. It can be done to discuss deeply with young physicians. That's why I send my young cardiologists every year to this program.*

Do you have any memorable moments with participants during the program?

Muramatsu: *I've always enjoyed discussing with participants from all over the world and young physicians working in Asan Medical Center.*

Lastly, would you leave a word to people who may have interests in this program?

Muramatsu: *Please join and learn intervention together!*

Interview with Dr. Harsha Basappa

Dr. Harsha Basappa, is an assistant professor in department of cardiology, Sri Jayadeva Institute of Cardiovascular Sciences & Research of India. He was one of the participants who joined the 56th ACT Program on February 18 to 21, 2013.

How did you know about this program?

Basappa: *I've heard this from a friend of mine.*

What was your first impression of this program?

Basappa: *The program is a perfect blend of training in patient selection, clinical decision-making in cardiovascular patient care & coronary intervention and advances in interventional cardiology.*

What did you learn and experience from this program?

Basappa: *The program gave me a perspective on procedural risk & benefit and helped me in my endeavor to master the techniques involved in coronary intervention.*

What do you enjoy most about this program?

Basappa*: I enjoyed the hospitality of the CVRF team, the techniques of retrograde approach and also enjoyed watching the skills of all the operators.*

What do you think about the strong points of this program compared to others?

Basappa: *This program was intense and directed at a small group of doctors. I had the opportunity of observing the cardiologists at the cath lab under the watchful eyes of Dr. S. J. Park, chairman of Heart Institute of Asan Medical Center and other senior doctors with whom I could interact. This would have not been possible in a conference.*

Lastly, can you leave a word to people who are interested in this program?

Basappa: *I think every cardiologist should be exposed to this program for enormous benefits.*

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