

## CVRF Newsletter April 2015, Volume 5

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### Interview:

## Founder and Course Director Seung-Jung Park, MD on the 20<sup>th</sup> Anniversary of TCTAP



**Q. What brought you to start this conference? And what were the top things you set out to accomplish? How did it go?**

*Since the first percutaneous transluminal angioplasty was performed in 1977, interventional cardiology has been experienced a lot of advances and achievement. The 1990's were a major growth period of the field of*

*interventional cardiology when I worked as an assistant professor of Medicine in Korea. At that time of period, however, there were very limited options available for Asian physicians to learn the latest techniques, to update clinical data and to present their research outcome as major interventional cardiology courses were only in developed countries including the US and Europe. As the world of medical science in Asia develops, the field of interventional cardiology became more internationalized. With an increasing need to education and advanced training opportunity, I've decided to launch this meeting for Asian physicians, named Angioplasty Summit with Seung-Wook Park, MD, currently serving as president and CEO of the Asan Medical Center. When I accepted the challenge of organizing and developing this conference, I set the bar high: I wanted to make the most desirable and effective place for everyone, especially Asians involved in the field of interventional cardiology to provide the best learning and global networking opportunity.*

*(See Interview, Page 2)*

## PAPER PUBLICATION

### BEST Study

## Trial of Everolimus-Eluting Stents or Bypass Surgery for Coronary Disease

**New England Journal of Medicine 2015 Mar 10**

At the American College of Cardiology's 64<sup>th</sup> Annual Scientific Session, Dr. Seung-Jung Park presented the randomized trial to compare everolimus-eluting stent implantation and coronary artery bypass grafting (CABG) in multivessel disease, called BEST trial, which was simultaneously published in the New England Journal of Medicine.

Recent randomized trials and observational studies have demonstrated that the rates of adverse clinical outcomes in patients with multivessel coronary artery disease are lower following CABG than with percutaneous coronary intervention (PCI). Current clinical guidelines thus recommend CABG as the preferential revascularization strategy, particularly in patients with more complex coronary lesions, and barring excessive preoperative risks. However, previous trials may have been limited by their use of first-generation drug-eluting stents. Although these stents reduced the rate of restenosis, their use was

associated with a relatively high rate of stent-related thrombotic events.

Outcomes of second generation of drug eluting stents have significantly improved over the past decade. Randomized trials and meta-analysis have shown that the use of everolimus-eluting stents markedly reduces the rates of death, myocardial infarction, restenosis, and stent thrombosis, suggesting that everolimus-eluting stents are safer and more effective than first-generation drug-eluting stents. Therefore, new study comparing PCI with everolimus-eluting stent and CABG is necessary.

Between July 2008 and September 2013, a total of 880 patients with angiographic multivessel disease amenable to either PCI or CABG were randomly assigned to PCI with everolimus-eluting stent (438 patients) or CABG (442 patients) from 27 international heart center. The primary outcome was a major adverse cardiac or cerebrovascular event (MACCE; a

composite of death from any cause, myocardial infarction, stroke, or any repeat revascularization) after randomization. During a median follow-up of 4.6 years (interquartile range, 3.5 to 5.2 years), MACCE occurred in 87 patients (20%) in the PCI group and 59 patients (13%) in the CABG group (hazard ratio [HR] 1.54; 95% confidence interval [CI], 1.11 to 2.14;  $P=0.01$ ). No significant differences were seen in the occurrence of a safety composite of death, myocardial infarction, or stroke between groups (12% and 10%, HR 1.26; 95% CI 0.84 to 1.89;  $P=0.26$ ). However, any repeat revascularization (11% and 5%; HR 2.09; 95% CI, 1.28 to 3.41;  $P=0.003$ ) and spontaneous myocardial infarction (4% and 2%; HR 2.75; 95% CI, 1.16 to 6.54;  $P=0.017$ ) were significantly more likely to occur with PCI.

*(See BEST Study, Page 2)*

ORIGINAL ARTICLE

## Trial of Everolimus-Eluting Stents or Bypass Surgery for Coronary Disease

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for the BEST Trial Investigators\*

In our current study of different treatment approaches for multivessel coronary artery disease, we found that CABG significantly reduced the incidence of MACCE compared with PCI using an everolimus eluting stent. We also found that this difference was mainly related to the higher rate of repeat revascularization in the PCI group. The safety composite outcomes of death, myocardial infarction, or stroke were similar between

groups. However, the rates of spontaneous myocardial infarction and new lesion revascularization were observed to continuously increase in the PCI group.

Contrary to previous studies, in the BEST trial, we adopted the second generation everolimus-eluting stent as the default stent platform and intravascular ultrasound was used in more than 70% of our patients for stent optimization. Additionally, we considered

reasonable incomplete but functionally adequate revascularization in the PCI group to avoid stent excess and related events. Consequently, the rate of overall adverse events was lower in our current PCI group than that reported in previous comparative trials. However, our PCI group still showed a higher rate of MACCE compared with the CABG group over a long-term follow-up.

The need for repeat revascularization was a major difference between the PCI and CABG group. In particular, new lesion revascularization was showed to be continuously increased in our PCI group. In addition, we observed that the rate of spontaneous myocardial infarction was also increased over a long-term follow up period. These findings may be accounted for by inherent differences in the treatment effects of PCI and CABG. However, the observed increase of repeat revascularization and spontaneous myocardial infarction with PCI in our study did not appear to translate into an overall mortality increase, although a longer-term follow-up will be needed to determine whether findings are durable.

Finally, Dr. Seung-Jung Park concluded that in patients with multivessel coronary artery disease, CABG significantly reduced the rate of MACCE. Although stent technology has advanced, CABG still showed more favorable clinical outcomes in long-term.

Continued from Page 1  
**Interview**

**Q. How do you think the conference has been changed over the years?**

*One obvious change is size. For last two decades TCTAP has grown up both in size and in academic quality of education. In 1995, the first year of this meeting we had less than 300 attendees, mostly Koreans, but now it has become one of the must-attending conferences which attract about four thousands of attendees from more than 50 countries. There has also been a surge in collaboration between TCTAP and other medical centers out of Korea and medical groups across the world. Partnering with those in different countries allow attendees to expose themselves to a higher level of education opportunity and to multiple perspectives and experience. Another change is faculty. Now more than 1,000 faculty members have been contributed in many ways. They have played a vital role in this meeting to be the best educational meeting in Asia Pacific by sharing their expertise and experience openly.*


**Q. In your last 20 years, which year/person was your favorite and memorable and why?**

*I have been grown up with this meeting along for last 20 years so each year and every single person I ever met here were so memorable and meaningful to me. From the beginning there has been a lot of help and*

*support of colleagues, partners and teachers, including all CRF members, especially Gary S. Mintz, MD who has joined in this meeting since 1997, Spencer B. King III, MD and Alan C. Yeung, MD. Of course all my staff of the Heart Institute of Asan Medical Center and CVRF team has inspired me a lot to keep pushing toward my goals. I must tell without them this meeting has never achieved such success, including myself. I would like to take this opportunity to thank many individuals for their contributions and willingness to share.*

**Q. What do you hope to accomplish with TCTAP?**

*I hope to reinvigorate the motivation. I and my team realize that we've come a long way, but there is still way to go further. Over the last few years, the field of interventional cardiology has experienced dramatic innovation in terms of medical treatment for patients. Even in some field Asia leads the way. The intent of this meeting is to lead the innovation from our unceasing effort of providing exceptional education and training, and of encouraging scientists and practitioners around the globe to perform and share best practices and clinical outcomes of summing up experiences. I hope such diversity and commitment to education and training provide a snapshot of approaches to the goal.*



21<sup>st</sup> CARDIOVASCULAR SUMMIT  
**TCTAP 2016**  
April 26-29, COEX, Seoul

Call for Submissions :  
~ November 20, 2015

[www.summit-tctap.com](http://www.summit-tctap.com)

## CardioVascular Research Foundation (CVRF)

[www.cvrf.org](http://www.cvrf.org)

The CardioVascular Research Foundation (CVRF) is a nonprofit clinical research foundation that contributes to improving the lives of patients with cardiovascular disease by conducting clinical researches, educating physicians and patients, and organizing international conferences.



# Five-Year Outcomes of the PRECOMBAT Study

## Randomized Trial of Stents versus Bypass Surgery for Left Main Coronary Artery Disease

Journal of American College of Cardiology 2015 Mar 10

Patients undergoing revascularization of unprotected left main coronary artery (ULMCA) stenosis are considered at high risk for adverse cardiovascular events. Coronary artery bypass graft surgery (CABG) had been considered the standard of care for ULMCA stenosis. However, over the last 20 years, improvement in stent technology and an accumulation of operator experience has increased the number of elective percutaneous coronary interventions (PCIs) performed to treat ULMCA stenosis.

The Premier of Randomized Comparison of Bypass Surgery versus Angioplasty Using Sirolimus-Eluting Stent in Patients with Left Main Coronary Artery Disease (PRECOMBAT) study is a prospective, open-label, randomized trial conducted in 13 sites in Korea and compared percutaneous coronary intervention (PCI) with sirolimus-eluting stent and coronary artery bypass grafting (CABG) in 600 patients with unprotected left main coronary artery (ULMCA) stenosis. Previously, Dr. Seung-Jung Park presented the primary results of the study that PCI was noninferior to CABG for the 1-year major adverse cardiovascular or cerebral event (MACCE; a composite of death, myocardial infarction, stroke, or ischemia driven target vessel revascularization) rate, which was the primary endpoint, (absolute difference, 2%; upper margin of 95% confidence interval [CI], 5.6%; hazard ratio [HR], 1.56; P for noninferiority = .011). At 2 years, the MACCE rate (12.2% vs 8.1%; HR, 1.5; 95% CI, 0.9–2.52; P = .12) and the composite rate of death, MI, or stroke (4.4% vs 4.7%; HR, 0.92; 95% CI, 0.43–1.96;

P = .83) remained comparable between the PCI and CABG groups. However, the durable effect of PCI remains in debate and limited data exist regarding the long-term comparison studies between PCI and CABG.

The Synergy Between Percutaneous Coronary Intervention with TAXUS and Cardiac Surgery (SYNTAX) trial compared the outcomes of PCI using paclitaxel-eluting stents versus CABG for unprotected LMCA stenosis in a subgroup analysis from the randomized study cohort. In the subset of LMCA disease comprising 348 patients receiving CABG and 357 receiving PCI, PCI (15.8%) demonstrated equivalent 12-month rates of MACCE compared with CABG (13.7%). When the follow-up was extended to 5 years, there were no significant differences in the rates of death (12.8% vs. 14.6%, p = 0.94), myocardial infarction (8.2% vs. 4.8%, p = 0.2), and MACCE (36.9% vs. 31.0%, p = 0.14) between patients who received PCI and CABG. The incidence of stroke was lower (1.5% vs. 4.3%, p = 0.03), while the incidence of repeat revascularization was higher (26.7% vs. 15.5%, p = 0.003) in the PCI arm.

This year, Dr. Seung-Jung Park and colleague presented the 5-year results of the PRECOMBAT trial. At 5 years, MACCE occurred in 52 patients in the PCI group and 42 patients in the CABG group (cumulative event rates of 17.5% and 14.3%; HR, 1.27; 95% CI, 0.84 to 1.90; p = 0.26). The two groups did not differ significantly in terms of death from any cause, myocardial infarction, or stroke as well as their composite (8.4% and 9.6%;

HR, 0.89; 95% CI, 0.52 to 1.52; p = 0.66). Ischemia-driven target vessel revascularization occurred more frequently in the PCI group than in the CABG group (11.4% and 5.5%; HR, 2.11; 95% CI, 1.16 to 3.84; p = 0.012). Therefore, these findings supported current guidelines stating that left main stenting is a feasible revascularization strategy for patients with suitable coronary anatomy. However, considering the limited power of our study, results should be interpreted with caution.

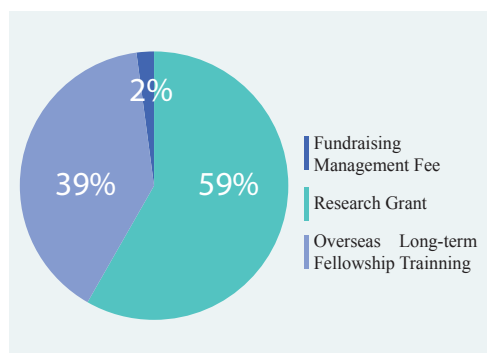
They also pointed out that unlike the situation in multivessel disease, both PCI and CABG showed the similar rate of the composite of death, myocardial infarction or stroke in patients with ULMCA stenosis. The reason for this difference between ULMCA stenosis and multivessel stenosis in outcomes is unclear, but ULMCA stenosis might be a more attractive target for PCI because of its large caliber, short lesion length, and lack of tortuosity compared with multivessel disease. The ongoing EXCEL (Evaluation of Xience Prime or Xience V Versus CABG for Effectiveness of Left Main Revascularization) trial comparing a 3-year composite endpoint of death, myocardial infarction, or stroke in the patients treated with PCI using second generation drug-eluting stents and CABG will provide important information about these regards. This study was presented at ACC scientific meeting 2015 and was simultaneously published in Journal of American College of Cardiology.

### CVRF NEWS

## Report for Fundraising of 2014

The CardioVascular Research Foundation (CVRF) has played a predominant role in conducting scientific researches, conferences and educational trainings to develop treatment and preventative methods for patients with cardiovascular disease and further accomplish our goal of “leading to greatness for the better human life.”

The chart below broke down how the CVRF spends the sum of all donations, showing that 59% goes to a research grant and 39% to the cost for supporting scientists who left Korea for training in foreign institute. In the purpose of continuous support for research activities, the CVRF provides selected researchers with research grants every year. A total of 3 research projects are carried out for 2015.



### Project Title

- The effects of exercise about postprandial endotoxin

*Jin-Ok Jeong, MD (Chungnam National University Hospital)*

- Impact of the triple antiplatelet regimen loading followed by maintenance on peri-interventional inhibition of platelet activity and systemic inflammation inpatients with acute myocardial infarction scheduled for percutaneous coronary intervention: Multicenter Prospective randomized study

*Mahn Won Park, MD (The Catholic of Korea, Daejeon St. Mary's Hospital)*

- Screening of microRNAs associated with liver X receptor B as a novel therapeutic approach of atherosclerosis

*Tae-Hoon Kim, MD (The Catholic Univ. of Korea, Uijeongbu St. Mary's Hospital)*

### Contact

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## 7<sup>th</sup> IMAGING & PHYSIOLOGY SUMMIT 2014

On December 6 and 7 in 2014, the 7<sup>th</sup> event of IMAGING & PHYSIOLOGY SUMMIT wrapped up successfully with more than 400 participants of interventional specialists and industry supporters, attending from 20 countries around the world. Along with a great and continuous interest in the field of imaging and physiology, the meeting newly changed its venue to the Grand InterContinental Seoul Parnas, located centrally in Seoul, in order to provide more convenient and optimal learning environment.

During two days, the meeting featured various academic programs including live case demonstrations, valuable lectures by renowned experts with interactive discussions, and practical workshops on advanced techniques and functional tips in invasive & non-invasive imaging and physiology. In addition, interesting cases submitted from various countries were presented lively through challenging competition sessions along with experts' review. KCTA symposium specially designed for catheterization laboratory technologists was also held as a concurrent session.

## New Joint Meeting of 5<sup>th</sup> TCTAP VALVES & 1<sup>st</sup> TCTAP Vascular Intervention GO



The 4<sup>th</sup> TAVI SUMMIT 2014, which was held on August 8-9, 2014 at Grand InterContinental Seoul Parnas Hotel, attracted about 300 attendees from 21 countries with its exceptional lineup of educational sessions and abundant networking opportunities relevant to the field of Transcatheter Aortic Valve Implantation. Highlights of this conference were live demonstration, taped case presentations and lectures presented by experts who are willing to share their own clinical experience and strategies.

TAVI SUMMIT will be back in 2015 under a brand new name, TCTAP VALVES, to embrace comprehensive and various topics of Valvular Interventions and Structural Heart concentrating on the optimal treatment options of each type of valve disease, technical evolution of devices

and techniques, and the treatment of Structural Heart Disease. And it also will be run as joint meeting with The 1<sup>st</sup> TCTAP Vascular Intervention Go (VIGO) which will allow gathering more international experts on these emerging fields.

With this change, the course of 5<sup>th</sup> TCTAP VALVES & 1<sup>st</sup> TCTAP Vascular Intervention GO 2015 will focus on advanced therapeutic options for valvular heart disease through upgraded scientific and clinical workshops. Also, participants can learn practical tips & tricks for state of the art devices through live case demonstrations, in-depth lectures and hot debates by internationally renowned experts. Moreover, moderated case competition session will be newly held with interesting cases from all over the world.

www.tctapvalve.com      www.tctapvigo.com

# 5<sup>th</sup> VALVES 1<sup>st</sup> VIGO

**August 6-8, 2015**

Grand InterContinental Seoul Parnas  
Seoul, Korea

**Advance Registration: ~ July 24, 2015**

www.imaging-physiology.com

# 8th IMAGING & PHYSIOLOGY SUMMIT 2015

**December 4-5, 2015**

Grand InterContinental Seoul Parnas  
Seoul, Korea

Call for Cases: ~ **August 14, 2015**

Advance Registration: ~ **November 20, 2015**

### TRAINING PROGRAM

## Interview with Fellowship Trainee, Dr. Kwok Leung Wu in CVRF



Dr. Kwok Leung Wu, a specialist in department of cardiology of Pamela Youde Nethersole Eastern Hospital, Hong Kong. He has joined fellowship training program organized by CVRF from January, 2015 and shared his experiences with CVRF and the Heart Institute of Asan Medical Center.

### Would you tell us about your hospital and duties in Hong Kong?

**Kwok Leung Wu:** I work in Pamela Youde Nethersole Eastern Hospital (PYNEH) in Hong Kong. It is one of the tertiary hospitals in Hong Kong, and Hong Kong people usually called it 'Eastern Hospital'. It has its own cath labs, Coronary Care Unit (CCU), Intensive Care Unit (ICU) and primary PCI services. I am currently the associate consultant of the medical unit in PYNEH. I started the training in cardiology in PYNEH since 2007. I had passed the fellowship final examinations in 2011. I have a busy working schedule in Hong Kong. Apart from cath lab duties, I have to

perform ward rounds for all kinds of patients who were admitted to the medical unit, and attend outpatient clinics. I also have to do Echo and generate treadmill reports. On average I have cath lab duties for about 4 days per week.

### How did you know about this fellowship program and Asan Medical Center?

**Kwok Leung Wu:** The Heart Institute of Asan Medical Center is one of the best centers in the world. Therefore I had grasped every possible chance to attend TCTAP in recent years. I knew about this program when I searched the website of the Asan Medical Center.

### What was your first impression of heart institute, Asan Medical Center?

**Kwok Leung Wu:** The Heart Institute was very well structured and organized. The most advanced cardiac interventions are all being performed every day.

### What is your daily life here as a fellowship trainee?

**Kwok Leung Wu:** I enjoy my life here very much as all the staffs are very friendly and keen to teach. My knowledge and skills in interventional cardiology are improving everyday in this center.

### What do you enjoy most from this program?

**Kwok Leung Wu:** What I enjoy most is the working environment here. Although the working schedule is very tight, every staff here works happily and energetically.

### What is your plan after going back to Hong Kong?

**Kwok Leung Wu:** I will continue to be an interventional cardiologist when I return to Hong Kong. And I will hold no reservation in recommending this program to other cardiologists in Hong Kong.

### Lastly, can you leave a word to potential candidates who are interested in this program?

**Kwok Leung Wu:** I will advise them to indicate their wish to Asan Medical Center as soon as possible as I anticipated a growing number of applicants in the future and late application means inability to join the training program.

### Short-Term Fellowship Training Program

- Candidates
- Fellows and young interventionists of Interventional Cardiology
- 2 participants every semester
- Required documents
  - CVRF application form
  - A recommendation letter from applicant's department head
  - Self-introduction (describes applicant's future interest and course)
  - Short CV
- Deadline for application
  - June & December every year
- **Contact**

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