7th Edition

CardioVascular Research Foundation

Leading to Greatness for the better human life

CardioVascular Research Foundation
2F, Asan Institute for Education & Research
88, Olympic-Ro 43-gil, Songpa-gu, Seoul, 05505, Korea

(재)심장혈관연구재단
05505 서울특별시 송파구 올림픽로 43길 88
아산교육연구관 2층, 심장혈관연구재단

tel 82-2-3010-4799
fax 82-2-475-6898
url www.cvrf.org

CVRF
CardioVascular Research Foundation

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CVRF *CardioVascular Research Foundation*

Who we are

CardioVascular Research Foundation (CVRF) is a non-profit clinical research foundation that seeks to contribute in improving the lives of patients with cardiovascular disease by promoting preclinical and clinical researches, educating physicians and teaching patients.

(재)심장혈관연구재단은 보건복지부 산하 비영리재단법인으로 설립되어, 심장질환에 대한 세계적인 수준의 연구를 통해 대국민 보건향상이라는 목표를 가지고 연구 활동 및 학술대회 개최, 교육 사업 등의 목적사업을 수행 중에 있습니다.

What we've done

Since its establishment in 2002 and its affiliation with the Heart Institute of Asan Medical Center, CVRF has been conducting and supporting a large number of outstanding clinical researches to help conquer cardiovascular disease through CRCC, Data Coordinating Center, QCA and IVUS Core Laboratories based on internationally standardized clinical research centers. The foundation has been also sharing cutting-edge knowledge and educating physicians and other professionals by holding international conferences and training programs.

심장혈관연구재단은 2002년 설립이래, 서울 아산병원 심장병원과 연계하여, 세계적 수준의 임상연구기관인 데이터 관리 센터와 핵심연구소들을 통해 유수의 뛰어난 임상 연구들을 지원해 왔습니다. 또한 본 재단은 국제학술회의, 웹사이트 운영 및 다양한 교육프로그램을 통해 최신 지식과 뛰어난 연구 성과를 알리는데 기여하고 있습니다.

What we will do

CVRF will do its best to develop innovative technologies and educate professionals and the public related to the cardiovascular field through its vast experience and knowledge obtained by ongoing research activities, scientific conferences, educative websites and various training programs. By achieving these goals, CVRF is dedicated to increase the survival rate and the quality of life for patients who suffer from cardiovascular disease.

심장혈관연구재단은 혁신적인 기술의 개발과, 현재 진행 중인 심장혈관에 대한 연구 활동, 학술회의, 다양한 교육프로그램 등에서 얻어진 지식과 경험을 바탕으로 전문가 육성 및 일반인들에게 유익한 정보를 제공하는 데에 최선을 다할 것입니다. 또한 이러한 다양한 노력을 바탕으로 심장혈관 질환으로 고통 받는 환자들을 위해 더 좋은 치료법을 개발하고, 더 나아가 국민의 보건향상에 기여하겠습니다.

BOARD OF TRUSTEE

Seung-Jung Park, MD, PhD *(Founder & Chairman)*
University of Ulsan, Asan Medical Center

Duk-Woo Park, MD, PhD *(Executive Director)*
University of Ulsan, Asan Medical Center

Myeong-Ki Hong, MD, PhD
Yonsei University Serverance Hospital

Seung-Ho Hur, MD, PhD
Keimyung University Dongsan Medical Center

Jae-Sik Jang, MD, PhD
Inje University Pusan Paik Hospital

Byeong-Keuk Kim, MD, PhD
Yonsei University Severance Hospital

Jae-Joong Kim, MD, PhD
University of Ulsan, Asan Medical Center

Kee-Sik Kim, MD, PhD
Daegu Catholic University Medical Center

Bon-Kwon Koo, MD, PhD
Seoul National University Hospital

Cheol Whan Lee, MD, PhD
University of Ulsan, Asan Medical Center

Seung-Whan Lee, MD, PhD
University of Ulsan, Asan Medical Center

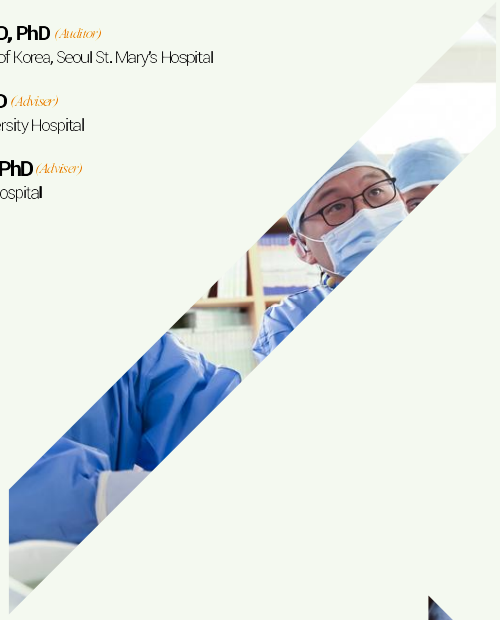
Ki-Bae Seung, MD, PhD
The Catholic University of Korea, Seoul St. Mary's Hospital

Jung-Min Ahn, MD, PhD *(Auditor)*
University of Ulsan, Asan Medical Center

Yoon Seok Koh, MD, PhD *(Auditor)*
The Catholic University of Korea, Seoul St. Mary's Hospital

Jae-Ki Ko, MD, PhD *(Adviser)*
Chonbuk National University Hospital

Dong Joo Oh, MD, PhD *(Adviser)*
Korea University Guro Hospital



CVRF STAFF

Executive Director

Kyung-Ae Kim 김경애
kakim@summitmd.com

Convention Division

Moon Na 나문
Exhibition, Industry Relations
namoon@summitmd.com

Emilie Cho 조미리
Faculty Management, Case Submission
emiliecho@summitmd.com

Sohee Park 박소희
Marketing
sohee@summitmd.com

Hee Won Kim 김희원
Faculty Management, Live Case Transmission
hwkim@summitmd.com

Rachel Yoo 유정인
Abstract Submission, Daily Newspaper
rachelyoo@summitmd.com

Yoonjoo Bae 배윤주
Marketing
yoonjoobae@summitmd.com

Training Division

Hyerim Yun 윤혜림
ACT & Fellowship Program, Satellite Symposium
yuyun@summitmd.com

Administrative, Accounting & Fundraising Division

Karen KH Kim 김경화
Administrative & Accounting
karen@summitmd.com

Bella Kim 김현정
Accounting & Meeting Registration
bellakim@summitmd.com

Jieun Kang 강지은
Research Management
rkd21203@summitmd.com

Web & Graphic Development Division

Soon-Jung Rho 노순정
Web & Graphic Development
novia@summitmd.com

Jiwon Kang 강지원
Web & Graphic Development
prime@summitmd.com

Secretarial Division

Mi-Kyung Jung 정미경
Executive Secretary
mkjung@amc.seoul.kr

RESEARCH

Clinical Research Coordinating Center (CRCC)
임상연구조정센터

Core Laboratories
핵심연구소

Research Activity
연구활동

Paper Publication
논문 발표

Data Coordinating Center
연구자료 관리센터

Translational Research Center
중개연구센터

Clinical Research Coordinating Center (CRCC)

임상연구조정센터

Seung-Jung Park, MD, PhD
Duk-Woo Park, MD, PhD

CVRF has been conducting and supporting a large number of outstanding clinical researches to extend life expectancy and to improve quality of patients' lives with cardiovascular disease. Clinical Research Coordinating Center (CRCC) was opened in 2005 to develop and plan a model successfully for evaluating the feasibility of clinical research with domestic and international multi-centers. CRCC assists with questionnaire regarding case report form design, implementation of study protocols, data management, data entry, statistical database, and web-based programming. Also, it analyzes characteristics and patterns of patients with cardiovascular disease, and directs the tool of clinical research exactly and efficiently which is the most essential step for the derivation of useful data.

심장혈관연구재단은 심혈관 질환 환자들의 생존율과 삶의 질 향상을 위해 다양한 임상연구를 수행하고 후원하여 왔습니다. 임상연구조정센터는 2005년 개소하여 국내외 여러 기관들과 제휴를 통해 성공적인 연구를 위한 모델을 제시하고 발전시켜 왔습니다. 임상연구조정센터는 설문지와 증례기록지 개발 및 구성, 연구 계획서의 개발, 자료관리, 자료입력, 통계데이터베이스, 웹 기반의 프로그래밍을 지원하며, 심장혈관질환을 가진 환자들의 특징과 그 양상을 분석하고, 유용한 임상자료를 수집하는 가장 중요하고 근본적인 단계인 임상연구 관리 감독을 전체적으로 총괄하고 있습니다.

Data Coordinating Center
연구자료 관리센터

Duk-Woo Park, MD, PhD

A goal of Data Management is to provide essential information to prevent and control cardiovascular disease through analysis without bias. We specialize in data collection and processing, outcome reporting of large datasets typically associated with health care eligibility, claim processing, and performance measurement. These data sets are used to provide meaningful reports that aid management in day-to-day operations. In addition, we have the capability to perform more detailed analysis and research on data in order to better understand complexities of service delivery systems. Statistical programmers, database programmers, and data managers have expertise in study design, development of computerized and web-based data collection, tracking systems, quality control procedures, and statistical analysis methods. A variety of data management systems can be custom-designed for projects that involve remote data entry using a web browser or projects conducted online.

심장혈관연구재단의 연구자료 관리센터는 객관적인 분석을 통해서 심혈관 질환을 예방하고 조절하는데 필요한 기본적인 정보를 제공하며, 임상연구 관련 대규모 자료를 수집하고, 연구의 진행을 평가하며 결과를 보고하는 업무를 수행하고 있습니다. 이와 같은 연구자료관리를 통하여 수집된 정보는 의사와 환자들의 일상 진료에 실질적인 도움을 주고 있습니다. 연구자료관리에는 통계, 자료정리, 자료관리의 전문가들이 컴퓨터와 웹 기반의 수준 높은 자료수집과 통계분석을 통해 엄격한 관리시스템을 적용하여 지속적인 양질의 연구자료를 제공하고 있으며, 인터넷이나 온라인 접속을 통하여 원거리 자료관리가 가능함으로 고객 주문형 프로젝트도 제공하고 있습니다. 본 재단은 임상연구의 안전성 확보를 위해 데이터 안전성 모니터링 위원회 (Data Safety Monitoring Boards, DSMB)의 심의를 받고 있습니다.

Statistical Analysis
- Assist in the development of analysis plan
- Provide randomization schedules
- Have expertise in conducting sophisticated analysis
- Prepare and clean data for analysis
- Have experience working with large, complex data sets
- Assist with reporting to Data Safety and Monitoring Boards (DSMB)
- Analyze data for manuscript preparation
- Generate graphs and tables for manuscripts
- Assist in writing methods and results of analysis

Data Safety Monitoring Boards (DSMB)
- Administrative support for scheduling DSMB meetings
- Statistical support for reviewing DSMB analysis plans and revisions
- Creation of table shells for DSMB reports
- Analysis of data and preparation of reports for DSMB review
- Data management including data entry systems, data cleaning, and creation of analytic datasets
- Attendance at DSMB meetings and presentation of analytic results

Core Laboratories
핵심연구소

Cardiovascular Core Laboratories are academic cardiovascular imaging Core Labs which provide internationally recognized expertise in efficient and environment. Core Labs provide the result of an unbiased interpretation about pharmaceutical or mechanical intervention in coronary artery disease and cardiac transplant studies. The independent processes reduce inter-observer or intra-observer variability and increase the accuracy and precision of results. Also Core Labs ensure that the investigators are adequately trained to optimize the yield of the imaging data and to figure out that all regulatory requirements are in place. It also assists with data analysis and interpretation, presentations to the medical community and education of the regulatory agencies about the study results.

핵심연구소는 국제적으로 인정받는 학술적 성과를 지속적으로 발표하여, 관상동맥질환과 심장이식연구에서 약물의 작용이나 기계적 중재시술의 결과들을 다양한 영상을 통하여 제공하고 해석함으로써 질병 치료의 새로운 지침을 마련하고 있습니다. 또한 핵심연구소는 독립적인 체제로 운영되어 분석의 객관성과 독립성을 추구하며 결과의 정확도를 높이고 있습니다. 연구원들은 좋은 영상을 얻기 위한 끊임 없는 교육을 받고 있으며, 그 연구의 결과를 바탕으로 자료분석, 해석, 발표, 교육 등의 분야를 지원하고 있습니다.

The tasks of the Core Laboratories
- GCP guideline compliant
- Protocol design of phase III and IV studies
- Case report form design
- Data collection and Interpretation
- Imaging analysis of angiography and intravascular ultrasound
- Data report
- Data analysis collaborated with data management center
- Education for physicians, technicians and nurses
- Collaborations with important core laboratories and data centers

Quantitative Coronary Angiographic (QCA) Core Laboratory
관상동맥 정량분석 핵심연구소

QCA Core Lab exploits and adjusts catheterization and other procedures for imaging protocols for each clinical trial and project. It achieves perfect and elaborate analysis of data for patients and clinical trial research. These accomplishments are based on ceaseless attempts, aiming for perfection. QCA Core Lab has experience in providing analysis for clinical studies of percutaneous coronary or peripheral interventions with stent, angioplasty, new coronary devices, and interventions with concomitant drug therapy. Importantly, QCA Core Lab is dedicated to the collection of data on TIMI grading and frame counting, morphology assessments for AHA/ACC lesion classification, QCA, including minimum lesion diameter, maximum percent diameter and area stenosis, normal (reference) vessel diameters and lesion length, left-ventricular ejection fraction and regional wall motion results, and ventricular volume indices. Together with interdisciplinary collaborations and consultations, QCA Core Lab provides unique and timely opportunities in interpreting the results of clinical trials and managing clinical researches.

관상동맥 정량분석 핵심연구소는 협심증 진단의 가장 정확한 검사인 관상동맥 정량분석 및 그와 연관된 영상 자료집을 개발하고 적용하는 일을 하고 있습니다. 완벽한 연구와 분석을 제공하기 위한 끊임없는 노력을 바탕으로 환자의 치료와 임상연구에 필요한 정교한 영상자료 분석을 수행하고 있습니다. 본 연구소는 스텐트, 풍선확장술, 새로운 관상동맥 기구 그리고 부가적 약물 치료를 이용한 경피적 관상동맥 및 말초혈관 중재술에 대한 다양한 임상시험의 영상자료를 분석하였으며, 심혈관영상에 대한 정밀한 형태학적 평가와 개량적 평가를 시행하고 있습니다. 또한 여러 분야간의 상호 협력을 통하여 임상시험과 임상연구의 심혈관영상 해석과 데이터 구축을 위해 노력하고 있습니다.

Facilities
- Research laboratory room
- Plain QCA software: Pie Medical Corp, CASS-5
- Dedicated bifurcation angiographic analysis software
- Angiographers

Intravascular Ultrasound (IVUS) Core Laboratory

혈관 내 초음파 핵심연구소

IVUS Core Lab offers a non-distortion analysis and conclusion of the data recorded ultrasonographically. IVUS Core Lab contains sophisticated computer imaging equipment and analysis workstations specifically designed for qualitative and quantitative coronary and peripheral ultrasound analyses. It increases accuracy and reproducibility of interpreted results by decreasing inter-observer variability through consistent training and systematic analytical processes. IVUS Core Lab has experience in providing intravascular ultrasound analysis for clinical studies in the area of atheroma progression/regression, various interventional techniques, transplant vasculopathy, quantitative IVUS analysis, plaque morphology, stent optimization, and quantitative and qualitative analysis for predicting the outcome of percutaneous coronary intervention.

혈관 내 초음파 핵심연구소에서는 심장의 관상동맥 내부의 구조를 초음파 영상으로 분석한 결과를 제공하는 일을 하고 있습니다. 정밀한 분석을 위해 최적화된 컴퓨터 영상 장비와 분석 단말장치를 갖추고 있으며, 훈련된 연구자에 의해서 체계적인 혈관 내 초음파 영상의 분석이 이루어 지고 있습니다. 또한 지속적인 정도 관리로 연구자간의 측정 오차를 줄여 정확하고 재현성이 높은 결과를 제공하고 있습니다. 본 연구소에서는 동맥경화반(Vulnerable Plaque)의 진행과 퇴행, 다양한 중재시술의 평가, 심장이식 후 혈관 병변의 변화, 스텐트 시술 후 스텐트와 혈관의 변화, 관상동맥 중재시술 후 예후예측인자의 발굴 등에 대한 정량적, 정성적 영상분석을 통하여 다양한 임상연구를 진행하고 있으며, 다른 심혈관계 임상연구를 후원하고 있습니다.

Facilities

- Research laboratory room
- IVUS hardware: GalexyTM2 IVUS Imaging System
- IVUS software: INDECSystems, EchoPlaque 2 software
- VirtuaHistology IVUS (VH-IVUS) hardware: Volcano VH-IVUS System
- Optical Coherence Tomography (OCT): LightLab OCT Imaging System
- Echocardiographer

Optical Coherence Tomography (OCT) / Virtual Histology-Intravascular Ultrasound (VH-IVUS) Imaging Center

광학단층촬영기 / 가상조직 혈관 내 초음파 센터

Significant interests in Vulnerable Plaque (VP) detection using OCT, OCT has been an imaging tool that permits high-resolution imaging (10-20 μm), in the vicinity of 10 times greater than IVUS and has become a key tool to detect and quantify thin cap fibroatheroma and macrophage distribution. This individual clinical observation supports the evidence and clue for detection of vulnerability for rupture. VH-IVUS system is a technology to enable real time (in the cardiac catheterization lab) compositional assessment of atherosclerotic plaques in coronary arteries. VH-IVUS technology uses advanced spectral analysis techniques to simplify interpretation of ultrasound images and provide detailed information on the composition of each patient's atherosclerotic plaque. Colorized VH images show four plaque component types: fibrous, fibro-fatty, dense calcium, and necrotic core. This novel technology provides automated measurement tools to simplify image interpretation and employs a pre-determined color key to display plaque composition at a specific point in the artery or across a region of interest.

광학단층촬영기를 이용한 취약한 동맥경화반 발견에 대한 많은 관심들이 생겨나고 있습니다. 광학단층촬영기는 혈관 내 초음파 보다 10배 뛰어난 해상력으로 10~20 μm의 고해상도의 영상을 구현해 주는 영상기술로, 미래의 심근경색증 발병의 위험이 높은 동맥경화 병변을 탐지하고 그 특성을 연구하는 핵심기술로 자리잡고 있습니다. 가상조직 혈관 내 초음파 시스템은 관상동맥 조영술 시술 시에 실시간으로 관상동맥 내부의 동맥경화반의 구성 성분을 분석합니다. 선진화된 스펙트럼 분석 기술을 통해 해당 조직의 진폭과 주파수를 특수한 알고리즘을 이용하여 동맥경화반의 구성 성분을 섬유조직(fibrous), 지질섬유조직(fibro-fatty), 석회화(calcium), 괴사 부위(necrotic core)로 단순화 시켜, 각 환자들의 동맥경화반의 구성 성분에 대한 자세한 정보를 제공하고 있습니다. 또한 이런 구성 성분을 각각의 정해진 색깔로 구현함으로써 해석의 편리성을 높이고 있습니다. 많은 연구자들이 이를 이용하여 지질연구 혹은 관상동맥 중재술 등의 임상연구에 큰 도움을 받고 있습니다.

Translational Research Center

중개연구센터

Jung-Min Ahn, MD, PhD

To improve human health, scientific discoveries must be translated into practical applications. Such discoveries typically begin at "the bench" with basic research - in which scientists study disease at a molecular or cellular level – then progress to the clinical level, or the patient's "bedside". Scientists are increasingly aware that this bench-to-bedside approach to translational research is really a two-way street. Basic scientists provide clinicians with new tools for use in patients and for assessment of their impact, and clinical researchers make novel observations about the nature and progression of disease that often stimulate basic investigations.

Translational Research Center has established to encourage and provide support for novel translational cardiovascular research. Physicians and scientists play a crucial role in the continuum of cardiovascular research that brings together the progress in the laboratory and the progress in the clinic. Translational Research demands an intense interaction between investigators with diverse backgrounds. It will accelerate cardiovascular research in the early stages of translation to the clinical setting and transfer of findings from the laboratory to clinical application. The purpose of Translational Research Center is to support research that shows high promise for translating basic biomedical knowledge to diagnosis or new treatments and, ultimately, to prolong and enhance life in the field of cardiovascular disease. It also supports activities that impact the environment in which translational research is conducted. Translational Research depends heavily on innovative new technologies to overcome the limitation of current devices in interventional cardiology. It also supports the human clinical trials assessing the outcomes of new coronary devices.

인류의 건강 증진을 위해서 과학적인 발견들은 반드시 환자의 진료와 치료로 응용이 되어야 합니다. 실제로 기초 연구자들이 실험실의 실험대(bench)에서 분자나 세포 수준에서 시행하는 연구들이 전임상 혹은 임상 연구를 통하여 임상의사의 진료실(bedside) 에 적용할 수 있는 임상적인 수준으로 발전하게 됩니다. 기초 과학자들은 임상의사에게 환자들에게 적용할 새로운 기술을 제공하고 이를 통하여 임상의사들은 질병의 본질과 진행에 관한 새로운 관찰과 연구가 가능합니다. 더 나아가 여기서 얻어진 정보는 다시 기초 연구자들의 새로운 기술의 개발과 발견을 자극하게 됩니다.

중개연구센터는 새로운 심혈관계 중개연구를 지원하기 위해 만들어진 프로그램입니다. 임상의사와 기초 연구자는 임상분야의 진보와 더불어 실험실적 연구의 진보를 동시에 이끌어 가고 있습니다. 중개연구를 위해서는 연구자간의 친밀한 상호 협력은 필수적인데, 이 협력이 연구실에서의 발견들을 임상에 적용하여 임상의사들의 진료실 이행 초기단계 연구보폭을 가속화 시킬 것입니다. 중개연구센터는 새로운 치료와 진단에 필요한 기초적인 생물학적 중개연구를 지원하고, 궁극적으로는 심장혈관질환의 치료와 예방을 통하여 인간 수명 연장을 목표로 하고 있습니다. 중개연구가 진행되고 있는 국내외의 연구 환경을 개선하여 더 효율적인 연구의 진행이 이루어 질 수 있도록 지원하고 있으며, 심장중재시술 분야에서 사용되고 있는 다양한 기구의 제한점을 극복하기 위한 새로운 기술들에 큰 관심을 두고 새로운 심장혈관 기구들의 효과를 평가하기 위한 임상시험도 후원하고 있습니다.

Research Activity
연구활동

- Short-Term Dual Antiplatelet and Maintenance ClopIdogrel Therapy after Drug-Eluting Stent Implantation (STAMP-DES trial)
- Evaluation of Effectiveness and Safety of Resolute Onyx™in Routine Clinical Practice; A Multicenter, Prospective Observational Study
- Evaluation of Effectiveness and Safety of Bioresorbable Vascular Scaffold in Routine Clinical Practice; A Multicenter, Prospective Observational Study
- Evaluation of Effectiveness and Safety of Bioresorbable Vascular Scaffold in Acute Myocardial Infarction; A Multicenter, Prospective Observational Study
- Evaluation of Effectiveness and Safety of Synergy™ Stent in Routine Clinical Practice; A Multicenter, Prospective Observational Study
- Evaluation of Effectiveness and Safety of Ultimaster® stent in Routine Clinical Practice; A Multicenter, Prospective Observational Study
- Ten-Year Outcomes of Stents versus Coronary-Artery Bypass Grafting for Left Main Coronary Artery Disease;
- Everolimus-Eluting Bioresorbable Scaffolds versus Everolimus-Eluting Metallic Stents for Diffuse Long Coronary Artery Disease
- Implantable Cardioverter Defibrillator versus Optimal Medical Therapy In Patients with Variant Angina Manifesting as Aborted Sudden Cardiac Death (VARIANT-ICD trial)
- Quantitative Coronary Angiography versus Imaging GUIDancE for Bioresorbable Vascular Scaffold Implantation: GUIDE-BVS trial
- Efficacy of the CYPHER Select™ Sirolimus-Eluting Coronary Stent Implantation for Coronary Artery Stenosis
- Randomized Comparison Study of Cypher™ Stent Versus Brachytherpy for Treatment of Diffuse In-Stent Restenosis
- The Effect of Sirolimus-Eluting Stent for Very Long Coronary Lesions
- The Effect of Paclitaxel-Eluting Stent for Very Long Coronary Lesions
- Randomized Comparison of Triple Versus Dual Antiplatelet Therapy After Drug-Eluting Stent Implantation; Will There Be a Synergy of DES and Cilostazol in Restenosis Reduction
- Effects of Rosiglitazone on Neointimal Hyperplasia After Coronary Stent Implantation in Patients with Diabetes Mellitus: A Serial Intravascular Ultrasound Study
- Comparison of Co-Cr alloy ArthosPico Stent with Sirolimus-Eluting Stent for Simple De Novo Coronary Lesions
- Efficacy of Sirolimus-Eluting Stent Implantation for Ostial Left Anterior Descending Artery Stenosis
- Comparison of Early and Mid-term Outcomes After Sirolimus-Eluting Stent implantation Versus Coronary Artery Bypass Grafting in Patients with Multivessel Coronary Artery Disease
- Percutaneous Treatment of LONG Native Coronary Lesions with Drug-Eluting Stent: Cypher Versus Taxus : LONG-DES
- Identification of Patients at Low Risk of 6-Month Instent Restenosis of Bare Metal Stenting In the Real World
- Glycosylated Hemoglobin Level as a Predictor of Restenosis After Drug-Eluting Stent Implantation in Diabetes Mellitus Patients
- Tissue Plasminogen Activator on Admission is an Important Predictor for 30-day Mortality in Patients with Acute Myocardial Infarction Undergoing Primary Angioplasty
- Serial Intravascular Ultrasound Findings in Patients with Ruptured
- Coronary Plaques: Evidence of Both Plaque Stabilization and Lesion Progression
- Evaluation of Neo-endothelization at the Stent Over Lapping Segment After Kissing Stenting with Sirolimis-Eluting Stent
- Effects of Atorvastatin Versus Rosuvastatin Rherapy on Coronary Atherosclerotic Plaque: A Prospective Randomized Comparison Trial With Intravascular Ultrasound
- Validation of New Drug-Eluting Stent in a Porcine Coronary Artery Model of Restenosis
- Multicenter Study for Evaluating the Procedural Efficacy and Initial Safety of the TAXUS Liberte™ Paclitaxel-Eluting Stent in Coronary Lesions
- Valsartan for Suppression of Plaque Volume and Restenosis After Paclitaxel-Eluting Stent
- EuroSCORE as a Predictor of Death and Myocardial Infarction After Unprotected Left Main Coronary Stenting
- Repeated Sirolimus-Eluting Stent Implantation for the Treatment of Drug-Eluting Stent Restenosis: Comparison with Conventional Therapies
- Tritace PEP Study in Metabolic Syndrome
- Comparison of the Efficacy of Zotarolimus(ABT 578)-Eluting Stent Versus Sirolimus-Eluting Stent Versus Paclitaxel-Eluting Stent for Coronary Lesions: The Prospective, Randomized, and Multi-center Trial
- Effects of Triple Antiplatelet Therapy on Platelet Function in Patients with Diabetes Mellitus Undergoing Percutaneous Coronary Stenting
- To Evaluate the 'Real World' Clinical Performance of the Medtronic EndeavorTM ABT-578 Eluting Coronary Stent System : A Prospective, Multicenter Registry(E-Five Registry)
- Premier of Randomized Comparison of Sirolimus-Eluting Stent Implantation Versus Coronary Artery Bypass Surgery for Unprotected Left Main Coronary Artery Stenosis: PhaseIII : Multicenter Trial: PRE-COMBAT Trial
- A Multicenter, Randomized, Double-Blind, Parallel Arm, 6-Week Study to Evaluate the Efficacy and Safety of Ezetimibe/Simvastatin Versus Atorvastatin in Patients with Metabolic Syndrome and Hpercholesterolemia at High Risk for Coronary Heart Disease
- Impact of Cilostazol on Neointimal Hyperplasia After ABT578-Eluting Stent Implantation in Patients with Long Coronary Lesions: Prospective, Double Blind, Randomized, and Multicenter trial
- Focal Type In-Stent Restenosis After Drug-Eluting Stent Implantation Treated by Cutting Balloon Angioplasty Versus Sirolimus-Eluting Stent
- Revascularization Treatment for Unprotected Left Main Coronary Artery Stenosis in Korea: Comparison of Percutaneous Coronary Intervention Versus Coronary Artery Bypass Surgery "Left Main Registry in Korea"
- Evaluation of the Long-Term Safety After Zotarolimus-Eluting Stent, Sirolimus-Eluting Stent, or PacliTaxel-Eluting Stent Implantation for Coronary Lesions-Late Coronary Arterial Thrombotic Events: The ZEST-LATE trial

- Comparison Between Drug-Eluting Stents for the Treatment of the Diffuse Type In-Stent Restenosis After Drug-Eluting Stents Implantation: Sirolimus-Eluting vs. Paclitaxel-Eluting Stents (DES-ISR Trial)
- The e-SELECT Registry A MultiCenter Post Market Surveillance
- Preventive Strategies of REnal Insufficiency in Patients with Diabetes Undergoing InterVENTion or Arteriography: PREVENT Trial
- Correlation of Clopidogrel Therapy Discontinuation in REAL-world Patients Treated with Drug-Eluting Stent Implantation and Late Coronary Arterial Thrombotic Events: REAL-LATE Trial
- Patient Related Outcomes with Endeavor Versus Cypher Stenting Trial Prospective, Multicenter, Randomized, Twoarm, Open-label Trial
- Optimal Stenting Strategy for True Bifurcation Lesion
- Choice of Optimal StRategy fOr Bifurcation LeSions with Normal Side Branch
- Comparison of the Efficacy and Safety of Paclltaxel-Eluting Coroflex™ Please Stent Versus Paclitaxel-Eluting Stent in Patients with Coronary Artery Disease
- Percutaneous Treatment of LONG Native Coronary Lesions with Drug-Eluting Stent-III: Sirolimus vs.Everlolimus-Eluting Stent
- The BEST TRIAL Randomized Comparison of Coronary Artery Bypass Surgery and Everolimus-Eluting Stent Implantation in the Treatment of Patients with Multivessel Coronary Artery Disease: Phase IV: Multicenter trial
- Randomized Comparison of Everolimus- Eluting Stent Versus Sirolimus-Eluting Stent Implantation for De Novo Coronary Artery DisEase in Patients with DIABETES Mellitus (ESSENCE-DIABETES TRIAL)
- A Randomized, Double-Blind, Single Center, Study of Effect of High-Dose(40mg) and Low-Dose(10mg) Statin for Coronary Plaque Modification
- Evaluation of Diabetic Effects on Clinical Outcomes After Sirolimus-Eluting Stents in the Asian Population
- Prospective Evaluation of Outcomes of Everolimus-Eluting Stent (XIENCE V) Implantation for Unprotected Left Main Coronary Artery Stenosis: Multicenter trial
- Percutaneous Treatment of LONG Native Coronary Lesions with Drug-Eluting Stent-III: Sirolimus vs. Zotarolimus-Eluting Stent
- Randomized Comparison of Zotarolimus-Eluting Stent Versus Sirolimus-Eluting Stent Implantation for De Novo Coronary Artery Disease in Patients with DIABETES Mellitus
- Drug-Eluting Stent Implantation Versus Optimal Medical Treatment in Patients with Chronic Total Occlusion
- Effectiveness of Clopidogrel Resinate(PRegreIr) in Patients Undergoing Percutaneous Coronary Intervention compared with Clopidogrel Bisulfate (Plavix)
- Evaluation of Effectiveness and Safety of Everolimus-Eluting Stents in Routine Clinical Practice
- New Aortic Valve Replacement in Selected High-Risk Patients with Aortic Stenosis without Conventional Sternotomy
- Evaluation of Effectiveness and Safety of PROMUS Element™ in Routine Clinical Practice; A Multicenter, PROSPECTIVE OBSERVATIONAL STUDY
- Evaluation of Effectiveness and Safety of NOBORI stent in Routine Clinical Practice; A Multicenter, PROSPECTIVE OBSERVATIONAL STUDY
- Evaluation of Effectiveness and Safety of BIOMATRIX in Routine Clinical Practice; A Multicenter, PROSPECTIVE OBSERVATIONAL STUDY
- Percutaneous Treatment of LONG Native Coronary Lesions with Drug-Eluting Stent-V: Biolimus A9-Eluting (NOBORI) vs. Everolimus-eluting (PROMUS-ELEMENT) Stent
- Comparison of Long-Term Angiographic Efficacy of Zotarolimus-Eluting Stent with Sirolimus-Eluting Stent and Paclitaxel-Eluting Stent for Coronary Lesions
- A Global Multicenter, Prospective, Real World Observational Study for Left Main Disease Treatment
- Triple Antiplatelet Therapy Significantly Reduces Ischemic Events After Drug-Eluting Stent Implantation; Drug-Eluting Stenting Followed by Cilostazol Treatment REduces Adverse Serious Cardiac Events (DECREASE-PCI Study)
- Randomized Comparison of Dual Drug-Eluting Cilotax Stent and Everolimus- Eluting Stent Implantation for DE Novo Coronary Artery DisEase in Patients with DIABETES Mellitus
- A Randomized, Double-Blind Study of Effect of Fimasartan for Modification of Atheroma Vulnerability in DEFERed Coronary Disease
- Effects of Fimasartan on Plaque Progression and Stability in a Rabbit Model of Atherosclerosis
- Percutaneous Treatment of LONG Native Coronary Lesions with Drug-Eluting Stent-VI: Everolimus-eluting vs. Zotarolimus-Eluting Stents
- Geometric Effect on Fractional Flow Reserve: Computational Flow Dynamics Study
- Evaluation of Effectiveness and Safety of XIENCE PRIME™ in Routine Clinical Practice; A Multicenter, Prospective Observational Study
- A Multicenter, Prospective Observational Cohort Study Of Effectiveness and Safety of RESOLUTE INTEGRITY for Patients with Complex Clinical and Lesion Subsets
- Device Closure Versus Medical Therapy for Secondary Prevention in Cryptogenic Stroke Patients with High-Risk Patent Foramen Ovale : DEFENSE-PFO trial
- The Efficacy and Safety of Edwards SAPEN XT Implantation in High Surgical Risk Patients with Severe Aortic Stenosis: Prospective, Single Center Study
- The Efficacy and Safety of Core valve Implantation in High Surgical Risk Patients with Severe Aortic Stenosis: Prospective, Single Center Study
- Evaluation of Effectiveness and Safety of the GENOUS STENT in ST-Segment Elevation Myocardial Infarction
- Effects of Fimasartan on Plaque Progression and Stability in a Rabbit Model of Atherosclerosis
- PREmier of Randomized COMparison of Bypass Surgery Versus AngioplasTy -3 using Promus Element Everolimus-Eluting Coronary Stent System in Patients with Left Main Coronary Artery Disease
- PREmier of Randomized COMparison of Bypass Surgery Versus AngioplasTy -3 using Resolute Integrity Zotarolimus-Eluting Coronary Stent System in Patients with Left Main Coronary Artery Disease
- PREmier of Randomized COMparison of Bypass Surgery Versus AngioplasTy -5 Orsiro™ Coronary Stent System in Patients with Left Main Coronary Artery Disease
- A Multicenter, Real World Observational Study to Validate the Effectiveness and Safety of FFR guided PCI (IRIS-FFR Registry)

- Evaluation of Effectiveness and Safety of Cilotax Stent in Routine Clinical Practice; A Multicenter Prospective Observational Cohort Study
- Treatment of Drug-Eluting Stent REstenosis Using Drug-Eluting STents vs. Drug-COated Balloon for Preventing REcurrent In-Stent Restenosis Asan Multivessel Registry - Prospective cohort, Retrospective cohort
- Evaluation of Effectiveness and Safety of Drug-Eluting Balloon in Routine Clinical Practice; A Multicenter Prospective Observational Cohort
- Educational Contents & Exercise Program Development for Cardiac Rehabilitation Solutions and Verify Effectiveness
- Evaluation of Effectiveness and Safety of Premier™ in Routine Clinical Practice; A MULTICENTER, PROSPECTIVE OBSERVATIONAL STUDY
- Evaluation of Effectiveness and Safety of Orsiro™ in Routine Clinical Practice; A MULTICENTER, PROSPECTIVE OBSERVATIONAL STUDY
- Evaluation of Effectiveness and Safety of Desyne™ in Routine Clinical Practice; A MULTICENTER, PROSPECTIVE OBSERVATIONAL STUDY
- Evaluation of Effectiveness and Safety of XIENCE XPEDITION™ in Routine Clinical Practice; A MULTICENTER, PROSPECTIVE OBSERVATIONAL STUDY
- EARly Prevention of aTHeroma Progression (EARTH trial)
- A Randomized, Open-label, Parallel Group, Multicenter Phase IV Study to Assess Safety and Efficacy of Ticagrelor Versus Clopidogrel in Asian/KOREAn Patients with Acute Coronary Syndromes Intended for Invasive Management: TICAKOREA Trial
- Evaluation of Clinical Outcomes of Transcatheter Aortic Valve Implantation in the Asian Population (the Asian TAVR registry)
- Randomized Comparison of Everolimus-Eluting Stent Versus Sirolimus-luting Stent Implantation for De Novo Coronary Artery DisEase in Patients with DIABETES Mellitus: 5-Year clinical outcomes of ESSENCE DIABETES trial
- The Preventive Implantation of Bioresorbable Vascular Scaffold on Functionally Insignificant Stenosis with Vulnerable Plaque Characteristics

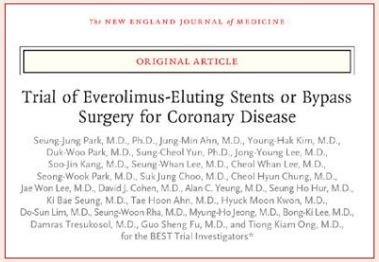
Paper Publication
논문 발표

2016

1. Predictors for Paravalvular Regurgitation After TAVR With the Self-Expanding Prosthesis: Quantitative Measurement of MDCT Analysis (JACC: Cardiovascular Imaging. 2016. Oct;1228-34)
2. Temporal Changes in Outcomes After Stenting or Bypass Surgery for Unprotected Left Main Coronary Artery Disease According to Diabetes Status (JACC: Cardiovascular Interventions. 2016;Dec 26; 2575-82)
3. Coronary Artery Bypass Surgery Versus Drug-Eluting Stent Implantation for Left Main or Multivessel Coronary Artery Disease (JACC: Cardiovascular Interventions. 2016, Dec 26;2481-9)
4. Benefit of Final Kissing Balloon Inflation Mandatory After Simple Crossover Stenting for Left Main Bifurcation Narrowing (The American Journal of Cardiology. 2016, Nov 2)
5. Complete versus incomplete revascularization in patients with multivessel coronary artery disease treated with drug-eluting stents (American Heart Journal. 2016, Sep;179:157-65)
6. Left Main Coronary Artery Disease(Secular Trends in Patients Characteristics, Treatments, and Outcomes) (Journal of the American College of Cardiology. 2016, Sep 13;68:1233-46)
7. Long-Term Mortality After Coronary Revascularization in Nondiabetic Patients With Multivessel Disease (Journal of the American College of Cardiology. 2016, July 5;68:29-36)
8. Coronary Artery Bypass Grafting Versus Drug-Eluting Stents Implantation for Previous Myocardial Infarction (The American Journal of Cardiology. 2016;118:17-22)
9. Clinical Outcomes Following Transcatheter Aortic Valve Replacement in Asian Population (JACC: Cardiovascular Interventions. 2016, May 9;926-33)
10. Effect of Statin Treatment on Modifying Plaque Composition(A Double-Blind, Randomized Study) (Journal of the American College of Cardiology. 2016, April 19;1772-83)

2015

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


The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

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

Even with the availability of newer-generation DES, patients with multivessel coronary artery disease still have better outcomes with surgery, according to a randomized study (BEST trial) presented March, 2015, at the American College of Cardiology in San Diego and simultaneously published the article entitled "Trial of Everolimus-Eluting Stents or Bypass Surgery for Coronary Disease" in The New England Journal of Medicine. This study randomized 880 patients from 27 hospitals in 4 East Asian countries to PCI with an everolimus-eluting stent (n = 438) or CABG (n = 442) for treatment of multivessel disease. All patients were considered candidates for stenting or surgery, and demographic, clinical, and angiographic characteristics were well matched between the 2 groups at baseline. In the PCI group, patients received an average of 3.4 stents and IVUS use was 71.8%. Complete revascularization was more common with CABG than with PCI (71.5% vs 50.9%; P < .001).

Compared with CABG patients, PCI patients were more likely to receive certain types of medical therapy including antiplatelet agents, beta blockers, ACE inhibitors or ARBs, and calcium channel blockers. At 2 years, DES did not show noninferiority to CABG for the primary endpoint of death, MI, or TVR (P for inferiority = .32). However, at a median follow up of 4 years, the rate of the primary endpoint was higher in the PCI group than in the CABG group, driven by greater rates of TVR with PCI. No differences were seen between treatment groups for the composite safety endpoint of death, MI, or stroke, but rates of any repeat revascularization, spontaneous MI, TVR, and new-lesion revascularization were higher in the PCI group Mortality rates were similar at 6.6% in the PCI group and 5.0% in the CABG group (P = .30). TIMI major bleeding was less frequent in the PCI group vs CABG (6.8% vs 29.9%; P < .001), but rates of fatal bleeding did not differ. ARC-defined stent thrombosis occurred in 7 PCI patients (1.6%) and consisted of 4 definite and 3 probable cases. This study confirmed higher efficacy of bypass surgery when compared with PCI even using contemporary newer-generation DES. N Engl J Med. 2015 Mar 16. [Epub ahead of print]

1. Temporal patterns of drug-eluting stent failure and its relationship with clinical outcomes (Catheter Cardiovasc Interv. 2015 Mar;85(4):515-21)

2. Temporal trends in revascularization strategy and outcomes in left main coronary artery stenosis: data from the asan medical center-left main revascularization registry. (Circ Cardiovasc Interv. 2015 Mar;8(3))

3. Impact of In-Hospital Bleeding According to the Bleeding Academic Research Consortium Classification on the Long-Term Adverse Outcomes in Patients Undergoing Percutaneous Coronary Intervention (Catheterization and Cardiovascular Interventions. 2015 Jan 1;85(1):63-71)

4. Randomized Trial of Stents versus Bypass Surgery for Left Main Coronary Artery Disease: Five-Year Outcomes of the PRECOMBAT Study (Journal of the American College of Cardiology. 2015 May 26;65(20):2198-206)

5. Trends in Outcomes of Revascularization for Left Main Coronary Disease or Three Vessel Disease with the Routine Incorporation of Fractional Flow Reserve in Real Practice (The American Journal of Cardiology. 2015 Oct 15;116(8):1163-71)

6. Comparison of Aortic Root Anatomy and Calcification Distribution Between Asian and Caucasian Patients Who Underwent Transcatheter Aortic Valve Implantation (The American Journal of Cardiology. 2015 Nov 15;116(10):1566-73)

7. Long-Term Clinical Outcomes of Mechanical versus Bioprosthetic Aortic Valve Replacement in Older Patients (Asiaintervention. 2015;1:72-80)

2014

1. Functional and morphological assessment of side branch after left main coronary artery bifurcation stenting with cross-over technique (Catheter Cardiovasc Interv. 2014 Mar 1;83(4):545-52)

2. Differences in intravascular ultrasound and histological findings in culprit coronary plaques between ST-segment elevation myocardial infarction and stable angina (J Thromb Thrombolysis. 2014 May;37(4):443-9)

3. Impact of the Angiographic Mechanisms Underlying Periprocedural Myocardial Infarction After Drug-Eluting Stent Implantation (Am J Cardiol. 2014 Apr 1;113(7):1105-10)

4. Edge dissection of calcified plaque as a possible mechanism for acute coronary syndrome. (J Thromb Thrombolysis. 2014 Nov;38(4):503-9)

5. Readmission Rate After Coronary Artery Bypass Grafting Versus Percutaneous Coronary Intervention for Unprotected Left Main Coronary Artery Narrowing (Am J Cardiol. 2014 May 15;113(10):1639-46)

6. Meta-analysis of outcomes after intravascular ultrasound-guided versus angiography-guided drug-eluting stent implantation in 26,503 patients enrolled in three randomized trials and 14 observational studies. (Am J Cardiol. 2014 Apr 15;113(8):1338-47)

7. Sex difference in clinical outcomes after percutaneous coronary intervention in Korean population (Am Heart J. 2014 May;167(5):743-52)

8. Comparison of Biolimus A9-Eluting (Nobori) and Everolimus-Eluting (Promus Element) Stents in Patients With De Novo Native Long Coronary Artery Lesions: A Randomized Long Drug-Eluting Stent V Trial. (Circ Cardiovasc Interv. 2014 Jun;7(3):322-9)

9. Drug-eluting stents for ST-elevation myocardial infarction: ready for prime time? (Coron Artery Dis. 2014 Aug;25(5):365-6)

10. Intravascular ultrasound-derived minimal lumen area criteria for functionally significant left main coronary artery stenosis. (JACC Cardiovasc Interv. 2014 Aug;7(8):868-74)

11. "Full metal jacket" drug-eluting stent implantation: a reasonable therapeutic option for advanced coronary artery disease? (Catheter Cardiovasc Interv. 2014 Dec 1;84(7):1051-2)

12. Optimal Duration of Dual Antiplatelet Therapy after Drug-Eluting Stent Implantation: A Randomized Controlled Trial (Circulation. 2014 Jan 21;129(3):304-12)

13. Multimodality imaging of attenuated plaque using grayscale and virtual histology intravascular ultrasound and optical coherent (Catheterization and Cardiovascular Interventions. 2014 Dec 15)

2013

Trends in the Outcomes of percutaneous coronary intervention with the routine incorporation of fractional flow reserve in real practice


FASTTRACK CLINICAL RESEARCH
International cardiology

Trends in the outcomes of percutaneous coronary intervention with the routine incorporation of fractional flow reserve in real practice

Seung-Jung Park[1]*, Jung-Min Ahn[1], Gyung-Min Park[1], Young-Rak Cho[1], Jong-Young Lee[1], Won-Jang Kim[1], Seungbong Han[2], Soo-Jin Kang[1], Duk-Woo Park[1], Seung-Whan Lee[1], Young-Hak Kim[1], Cheol Whan Lee[1], Gary S. Mintz[3], and Seong-Wook Park[1]

Routine use of fractional flow reserve (FFR) measurements to guide the use of percutaneous coronary intervention (PCI) in clinical practice reduces the number of stents used and improves clinical outcomes, according to this large registry study published in the European Heart Journal. Researchers led by Seung-Jung Park, MD, PhD, of Asan Medical Center (Seoul, South Korea), looked at 5,097 patients enrolled before (2008-2009) and after (2010-2011) the institution of routine FFR measurement in the ASAN PCI Registry. FFR use rapidly increased over the study period to a rate of 58% at the end of study enrollment. In 475 patients, stent implantation was deferred after FFR measurement, comprising 37% of patients measured for FFR and 19% of the cohort after the introduction of routine use of FFR. At 1 year, mortality was 1.1%, with 0.7% of deaths from cardiovascular causes. The MI rate was 3.2% and the repeat revascularization rate was 2.8%. Using 2,178 propensity-matched pairs, multiple clinical outcomes at 1 year, including the composite of death, MI, and repeat revascularization (primary endpoint) as well as the component endpoints, were lower after the introduction of routine FFR measurement. Definite or probable stent thrombosis was also similar at 1 year. On multivariable analysis, FFR was identified as an important predictor of the primary endpoint (HR 0.72; 95% CI 0.53-0.98; P = 0.036) as well as of repeat revascularization (HR 0.61; 95% CI

0.37-1.00; P = 0.05). FFR was also an important determinant of number of treated lesions (P < 0.001), number of implanted stents (P < 0.001), and total stent length (P < 0.001). The study authors note that FFR's contribution in lowering risk of death, MI, or repeat revascularization at 1 year was "primarily due to a reduced number of stents used per patients and a subsequent decreased risk of periprocedural MI and repeat revascularization." Median number of stents implanted was 2 before routine FFR measurement and 1 after routine use (P < 0.001). This article was of paramount importance providing more favorable evidence to the measurement of FFR in daily practice which is associated with less use of stent implantation and improvement in clinical outcomes. (Eur Heart J. 2013 Nov;34(43):3353-61)

1. Impact of Intravascular Ultrasound-Guided Percutaneous Coronary Intervention on Long-Term Clinical Outcomes in a Real World Population (Catheterization and Cardiovascular Interventions. 2013 Feb;81(3):407-16)

2. Differential Prognostic Effect of Intravascular Ultrasound Use According to Implanted Stent Length (The American Journal of Cardiology. 2013 Mar 15;111(6):829-35)

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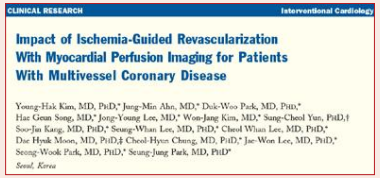
2012

Impact of Ischemia-guided revascularization with myocardial perfusion imaging for patients with multivessel coronary disease.


CLINICAL RESEARCH Interventional Cardiology

Impact of Ischemia-Guided Revascularization With Myocardial Perfusion Imaging for Patients With Multivessel Coronary Disease

Young-Hak Kim, MD, PhD,* Jung-Min Ahn, MD,* Duk-Woo Park, MD, PhD,* Hae Geun Song, MD,* Jong-Young Lee, MD,* Won-Jang Kim, MD,* Sang-Cheol Yun, PhD,† Soo-Jin Kang, MD, PhD,* Seung-Whan Lee, MD, PhD,* Cheol Whan Lee, MD, PhD,* Duc Hyuk Moon, MD, PhD,‡ Cheol-Hyo Cheng, MD, PhD,* Jae-Won Lee, MD, PhD,* Seong-Wook Park, MD, PhD,* Seung-Jung Park, MD, PhD*

Seoul, Korea

From the large multivessel registry from Asan medical center, Dr Park and his colleagues studied the long-term safety and effectiveness of ischemia-guided (IG) revascularization using myocardial perfusion imaging (MPI). The outcomes of IG revascularization, in which revascularization was performed in the matched coronary artery with the perfusion abnormality on MPI, were compared with those of non-IG revascularization in 5,340 patients with multivessel coronary disease comprising 2,587 percutaneous coronary interventions (PCIs) with drug-eluting stents and 2,753 coronary artery bypass graft (CABG) surgeries. The incidence of major adverse cardiac and cerebrovascular events (MACCE) including death, myocardial infarction, stroke, or repeat revascularization was significantly lower in the IG than in the non-IG group (16.2% vs. 20.7%; adjusted hazard ratio [aHR]: 0.73; 95% confidence interval [CI]: 0.60 to 0.88; p = 0.001) during the 5 year follow-up, primarily driven by the lower repeat revascularization rate (9.9% vs. 22.8%; aHR: 0.66; 95% CI: 0.49 to 0.90; p = 0.009). Subgroup analysis showed that IG reduced the risk of MACCE in PCI (17.4% vs. 22.8%; aHR: 0.59; 95% CI: 0.43 to 0.81; p = 0.001) but not in CABG (16.0% vs. 18.5%; aHR: 0.87; 95% CI: 0.67 to 1.14; p = 0.31) patients. This article suggests that the ischemia-guided revascularization, which is associated with decreased risk of repeat revascularization and MACCE for patients with multivessel disease, is important particularly in PCI-treated patients. J Am Coll Cardiol. 2012 Jul 17;60(3):181-90.

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2011

Randomized Trial of Stents vs. Bypass Surgery in Left Main Coronary Disease: The PRECOMBAT Trial


The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

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

Seung-Jung Park, M.D., Young-Hak Kim, M.D., Duk-Woo Park, M.D., Sung-Cheol Yun, Ph.D., Jung-Min Ahn, M.D., Hae Geun Song, M.D., Jong-Young Lee, M.D., Won-Jang Kim, M.D., Soo-Jin Kang, M.D., Seung-Whan Lee, M.D., Cheol Whan Lee, M.D., Seong-Wook Park, M.D., Cheol-Hyun Chung, M.D., Jae-Won Lee, M.D., Do-Sun Lim, M.D., Seung-Woon Rha, M.D., Sang-Gon Lee, M.D., Hyeon-Cheol Gwon, M.D., Hyo-Soo Kim, M.D., In-Ho Chae, M.D., Yangsoo Jang, M.D., Myung-Ho Jeong, M.D., Seung-Jea Tahk, M.D., and Ki Bae Seung, M.D.

In April 2011, Seung-Jung Park, MD from Asan Medical Center, Seoul, Korea presented the results of left main specific randomized trial (the PRECOMBAT study) in a New Orleans and simultaneously published an article entitled "Randomized Trial of Stents vs. Bypass Surgery in Left Main Coronary Disease" in the New England Journal of Medicine.

Several registry data and a substudy from the SYNTAX trial have suggested that percutaneous coronary intervention(PCI) could be an acceptable alternative to standard coronary artery bypass grafting (CABG) in patients with unprotected left main coronary artery disease. However, registry results have an inherent limitation of selection bias, prohibiting a fair comparison of the two treatments and were limited by inadequate statistical power, and the sub-study in SYNTAX trial is just hypothesis-generating. Therefore, the definite uncertain due to the lack of large randomized clinical trials.

In the premier of Randomized Comparison of Bypass Surgery versus Angioplasty Using Sirlimus-Eluting Stent in Patients with Left Main Coronary Artery Disease (PRECOMBAT) trial, Dr. Park and his colleague analyzed patients with unprotected left main coronary stenosis who were randomly assigned to undergo CABG (N=300) or PCI with sirolimus-eluting stents (N=300).

Primary end point was major adverse cardiac or cerebrovascular events (MACCE) including all-cause death, myocardial infarction, stroke, or ischemia-driven target vessel revascularization at 1 year and these event rates were also compared over 2 years. At 1 year, the primary outcome occurred in 26 (8.7%) of patients randomized to PCI versus 20(6.7%) of patients randomized to CABG (absolute risk difference, 2.0%; 95% CI, -1.6 to 5.6, P=0.011 for noninferiority). At 2 years, the primary outcome occurred in 36 patients in the PCI group and 24 in the CABG group (12.2% vs. 8.1%; HR, 1.50; 95% CI, 0.90-2.52; P=0.12). The rate of hard safety end points (death, myocardial infarction or stroke) were similar between the PCI and the CABG group (4.4% vs. 4.7%; HR, 0.92; 95% CI, 0.43-1.96; P=0.83). However, the rate of target0vessel revascularization was significantly higher in the PCI group than in the CABG (9.0% vs. 4.2%; HR, 2.18; 95% CI, 1.10-4.32; P=0.02).

This result of the PRECOMBAT trial suggested that drug-eluting stents were found to be noninferior to CABG with respect to MACCE and could be an alternative option for selected patients with unprotected left main disease. This article was of paramount importance to provide more definite suggestion for the optimal revascularization strategy for such patients in clinical practice.

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2010

Duration of Dual Antiplatelet Therapy after Implantation of Drug-Eluting Stents


THE NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Duration of Dual Antiplatelet Therapy after Implantation of Drug-Eluting Stents

In March 2010, Seung-Jung Park, MD from Asan Medical Center, Seoul, Korea presented the study about anti-platelet therapy in a Late-Breaking Clinical Trials session at ACC i2 summit in Atlanta and simultaneously published the article entitled "Duration of Dual Antiplatelet Therapy after Implantation of Drug-Eluting Stents" in The New England Journal of Medicine. The use of drug-eluting stent is associated with significant reductions in the risks of restenosis and need for repeated treatment. Therefore, drug eluting stents have been widely used for percutaneous coronary intervention (PCI) in clinical practice. However, the benefit of these advanced stents was counterbalanced by the concern of stent thrombosis due to delayed arterial healing after the implantation. To prevent such a catastrophic event, current PCI guidelines recommend that clopidogrel plus aspirin should be given for at least 12 months after implantation of drug-eluting stents if patients are not at high risk for bleeding. However, the optimal duration of dual antiplatelet therapy beyond 12 months remain uncertain. For the study, Dr. Park and his colleague analyzed 2701 patients who had stable clinical course above 12 months after undergoing drug-eluting stent implantation. During the follow up of 19.2 months, the risk of death or myocardial infarction was comparable. Furthermore, the individual risks of death, myocardial infarction, stroke, stent thrombosis, need for repeat revascularization, major bleeding, and death were not significantly different, either. This result suggested that the use of dual antiplatelet therapy beyond 12 months in patients undergoing drug eluting stent implantation was not significantly more effective than aspirin monotherapy in reducing the rate of myocardial infarction or death. This article was of paramount importance to provide the guidance for the optimal duration of dual antiplatelet therapy beyond 12 months, "what every cardiologist wants to know" Duration of Dual Antiplatelet Therapy after Implantation of Drug- Eluting Stents. N Engl J Med. 2010 Apr 15;362(15)

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2009

Long-Term Safety and Effectiveness of Unprotected Left Main Coronary Stenting With Drug-Eluting Stents Compared With Bare Metal Stents


Circulation
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The MAIN-COMPARE registry is the largest registry in the world designed to evaluate the real-world outcomes of revascularization therapy of unprotected left main coronary artery stenosis. From this dedicated registry, Dr Park and his colleagues studied the long-term safety and effectiveness of percutaneous coronary intervention with drug-eluting stent (DES) compared with bare metal stent. Despite the proven feasibility of DES for unprotected left main coronary artery stenosis in several studies, the long-term outcomes remained to be elucidated. Following results were published in Circulation at 2009.

A total of 1217 patients were divided into the 2 groups : 353 who received only BMS and 864 who received at least 1 DES. The 3-year outcomes including death or myocardial infarction were similar between groups. However, the rate of target lesion revascularization was 2.5 times higher in BMS groups than in DES groups. In addition, subgroup analysis showed the similar trend regardless of distal bifurcation involvement. This study showed the durable safety and efficacy of DES compared with BMS in the treatment of unprotected left main coronary stenosis.

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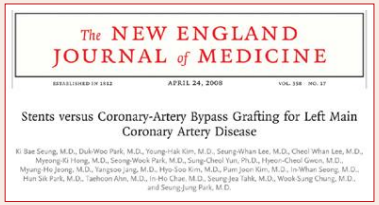
2008

Stents versus Coronary-Artery Bypass Grafting for Left Main Coronary Artery Disease


The NEW ENGLAND JOURNAL of MEDICINE

APRIL 24, 2008

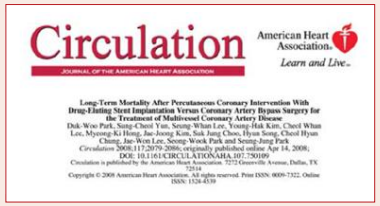
Stents versus Coronary-Artery Bypass Grafting for Left Main Coronary Artery Disease

The findings come from the Revascularization for Unprotected Left MAIN Coronary Artery Stenosis: COMparison of Percutaneous Coronary Angioplasty Versus Surgical REvascularization (MAIN-COMPARE) study, which drew its data from a large multicenter data registry in Korea, where left-main stenting is far more common than in the U.S. Seung-Jung Park, MD, PhD, presented this study in a Late-Breaking Clinical Trials session at the SCAI Annual Scientific Sessions in Partnership with ACC i2 Summit (SCAI-ACCi2) in Chicago. This study was simultaneously published in The New England Journal of Medicine in March 2008. For the study, Dr. Park and his colleague analyzed data from 2,240 patients with unprotected left main coronary artery disease treated at 12 medical centers in Korea. Of these, 318 were treated with bare-metal stents, 784 were treated with drugeluting stents, and 1,138 underwent bypass surgery. During three years of follow-up, patients treated with baremetal stents were nearly 11 times as likely to need a repeat procedure to reopen the target vessel when compared to those who underwent bypass surgery. However, the rates of death (hazard ratio: 1.04) and the combined rates of death, heart attack and stroke (hazard ratio: 0.86) were similar in the two groups. Patients treated with drug-eluting stents were nearly six times as likely to need a repeat procedure during three years of follow-up, but the rates of death (hazard ratio 1.36)

and the combined rates of death, heart attack and stroke (hazard ratio: 1.40) were statistically similar, although there was a trend toward higher event rates with drug-eluting stents. The new study suggests it is worth considering stent implantation even if the left main coronary artery is unprotected by a prior bypass graft.

Seung KB, Park DW, Kim YH, Lee SW, Lee CW, Hong MK, Park SW, Yun SC, Gwon HC, Jeong MH, Jang Y, Kim HS, PJ, Seong IW, Park HS, Ahn T, Chae IH, Tahk SJ, Chung WS, Park SJ. Stents versus Coronary-Artery Bypass Grafting for Left Main Coronary Artery Disease. (N Engl J Med. (2008) 358:1781-92)

Long-Term Mortality After Percutaneous Coronary Intervention With Drug-Eluting Stent Implantation Versus Coronary Artery Bypass Surgery for the Treatment of Multivessel Coronary Artery Disease


Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION
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Long-Term Mortality After Percutaneous Coronary Intervention With Drug-Eluting Stent Implantation Versus Coronary Artery Bypass Surgery for the Treatment of Multivessel Coronary Artery Disease

Drug-eluting stents (DES) and coronary artery bypass graft surgery (CABG) offer patients with multivessel coronary artery disease similar mortality benefits at 3-year follow-up, although DES use appears to result in significantly higher revascularization rates, according to registry data published
in April 14, 2008, Circulation.
A research team led by Seung-Jung Park, MD, of Asan Medical Center (Seoul, Korea), compiled data on 3,042 patients with multivessel disease who underwent DES placement with sirolimus-eluting or paclitaxel-eluting stents (n=1,547) or bypass surgery (n=1,495). The primary endpoint was all-cause mortality.
Crude data pointed towards a mortality benefit for DES, athough when adjusted for baseline characteristics, death rates were similar between the 2 groups (table 1). Patient subgroups with diabetes or poor left ventricular function, both of which experienced increased death rates compared with the study population as a whole, also showed no significant difference in mortality between DES vs. CABG. The study did reveal a significant mortality benefit from DES in patients with 2-vessel disease involving the nonproximal left anterior descending artery (HR 0.23; 95% CI, 0.01-0.78). However, patients who underwent DES implantation had significantly higher revascularization rates than those who received CABG (HR 2.81; 95% CI, 2.11-3.75).
Dr. Park said, "Data regarding the long-term outcomes beyond 1 year among patients with multivessel coronary artery disease who underwent DES or CABG is very limited. Our study provides insight for long-term results of DES comparable to CABG, which is somewhat inconsistent with a recent report on the same issue. Therefore, these conflicting issues should be [resolved] by well-controlled, large randomized trials." In addition, considering the preference of many patients for stenting to avoid general anesthesia and major surgery, DES still provide an alternative treatment strategy for multivessel disease.

Park DW, Yun SC, Lee SW, Kim YH, Lee CW, Hong MK, Kim JJ, Choo SJ, Song H, Chung CH, Lee JW, Park SW, Park SJ. Long-Term Mortality After Percutaneous Coronary Intervention with Drug-Eluting Stent Implantation versus Coronary Artery Bypass Surgery for the Treatment of Multivessel Coronary Artery Disease. (Circulation (2008) 117:2079-86)

1. Drug-Eluting Stenting Followed by Cilostazol Treatment Reduces Late Restenosis in Patients With Diabetes Mellitus (J Am Coll Cardiol 2008;51:1181-1187)
2. A Ramdomized Comparison of Sirolimus-Versus Paclitaxel- Eluting Stent Implantation in Patients With Diabetes Mellitus (J Am Coll Cardiol 2008;52:727-733)
3. Satety and Effectiveness of Sirolimus-Eluting Stent Implantation for In-Stent Restenosis of the Unprotected Left Main Coronary Artery (Int J Cardiol 2008;124:118-120)
4. Impact of Significant Chronic Kidney Disease on Long-Term Clinical Outcomes after Drug-Eluting Stent versus Bare Metal Stent Implantation (Int J Cardiol 2008;125:36-40)
5. Percutaneous Coronary Intervention with Stenting of Left Main Coronary Artery with Drug-Eluting Stent in the Setting of Acute ST Elevation Myocardial Infarction (Int J Cardiol 2008;126:224-228)
6. Impact of Periprocedural Myonecrosis on Clinical Events after Implantation of Drug-Eluting Stents (Int J Cardiol 2008;129:368-372)
7. A Three-Vessel Virtual Histology Intravascular Ultrasound Analysis of Frequency and Distribution of Thin-Cap Fibroatheromas in Patients With Acute Coronary Syndrome or Stable Angina Pectoris (Am J Cardiol 2008;101:568-572)
8. Randomized Comparison of Cilostazol vs Clopidogrel After Drug-Eluting Stenting in Diabetic Patients- Cilostazol for Diabetic Patients in Drug-Eluting Stent (CIDES) Trial (Cir J 2008;72:35-39)
9. Age-Related differences in Intravascular Ultrasound Findings in 1,009 Coronary Artery Disease Patients (Cir J 2008;72:1270-1275)
10. Long-Term Clinical Outcomes After Sirolimus-Eluting Stent Implantation for Treatment of Restenosis Within Bare-Metal Versus Drug-Eluting Stents (Catheter Cardiovasc Interv 2008;71:594-598)
11. Late Target Lesion Revascularization After Implantation of Sirolimus-Eluting Stent (Catheter Cardiovasc Interv 2008; 71:299-303)

2007

1. Plaque ruptures in Stable Angina Pectoris Compared with Acute Coronary Syndrome (Int J Cardiol 2007;114:78-82)
2. Five-Year Outcomes after Stenting of Unprotected Left Main Coronary Artery Stenosis in Patients with Normal Left Ventricular Function (Int J Cardiol 2007;115:208-213)
3. Comparison of Angiographic Patterns of In-Stent Restenosis Between Sirolimus-and Paclitaxel-Eluting Stent (Int J Cardiol 2007;120:387-390)
4. Impact of Postprocedure Minimum Stent Area on Long-Term Results Following Abciximab-Coated Stent Implantation; An Intravascular Ultrasound Analysis (Int J Cardiol 2007;123:23-28)
5. Prognostic Impact of Preprocedural C Reactive Protein Levels on 6-Month Angiographic and 1-Year Clinical Outcomes after Drug-Eluting Stent Implantation (Heart 2007;93:1087-1092)
6. Serial Intravascular Ultrasound Evidence of Both Plaque Stabilization and Lesion Progression in Patients with Ruptured Coronary Plaques: Effects of Statin Therapy on Ruptured Coronary Plaque (Atherosclerosis 2007;191:107-114)
7. Frequency of Coronary Arterial Late Angiographic Stent Thrombosis(LAST) in the First Six Months: Outcomes With Drug-Eluting Stents Versus Bare Metal Stents (Am J Cardiol 2007;99:774-778)
8. Results and Predictors of Angiographic Restenosis and Long-Term Adverse Cardiac Events After Drug-Eluting Stent Implantation for Aorto-Ostial Coronary Artery Disease (Am J Cardiol 2007;99:760-765)

9. Usefulness of Serum N-Terminal Pro-Brain Natriuretic Peptide to Predict In-Stent Restenosis in Patients With Preserved Left Ventricular Function and Normal Troponin I Levels (Am J Cardiol 2007;99:1051-1054)

10. Comparison of Six-Month Angiographic and Three-Year Outcomes After Sirolimus-Eluting Stent Implantation Versus Brachytherapy for Bare Metal In-Stent Restenosis (Am J Cardiol 2007;100:425-430)

11. Effects of Triple Antiplatelet Therapy(Aspirin, Clopidogrel, and Cilostazol) On Platelet Aggregation and P-Selectin Expression in Patients Undergoing Coronary Artery Stent Implantation (Am J Cardiol 2007;100:610-614)

12. Comparison of Virtual Histology to Intravascular Ultrasound of Culprit Coronary Lesions in Acute Coronary Syndrome and Target Coronary Lesions in Stable Angina Pectoris (Am J Cardiol 2007;100:953-959)

13. Comparison of Triple Versus Dual Antiplatelet Therapy After Drug-Eluting Stent Implantation (from the DECLARE-Long Trial) (Am J Cardiol 2007;100:1103-1108)

14. Relationship Between Peripheral Monocytosis and Nonrecovery of Left Ventricular Function in Patients With Left Ventricular Dysfunction Complicated With Acute myocardial Infarction (Circ J 2007;71:1219-1224)

15. Incidence and Predictors of Recurrent Restenosis Following Implantation of Drug-Eluting Stents for In-Stent Restenosis (Catheter Cardiovasc Interv 2007;69:104-108)

16. Sirolimus-Eluting Stent Implantation for Treatment of Proximal Left Anterior Descending Coronary Artery Lesions: Long-Term Outcome and Predictors of Adverse Cardiac Events (Catheter Cardiovasc Interv 2007;70:368-373)

17. Factors Predictive of Cardiac Events and Restenosis After Sirolimus-Eluting Stent Implantation in Small Coronary Arteries (Catheter Cardiovasc Interv 2007;69:821-825)

18. Long-Term Outcome of Simultaneous Kissing Stenting Technique With Sirolimus-Eluting Stent for Large Bifurcation Coronary Lesions (Catheter Cardiovasc Interv 2007;70:840-846)

19. Effect of Conventional Dose of Simvastatin on Plaque Regression and Vascular Remodeling in the Peristent Reference Segments of Normocholesterolemic Patients: A Serial Intravascular Ultrasound Assessment (The Korean Circulation J 2007;37:483-488)

2006

Late Stent Malapposition After DES Implantation: Is It Really Concerned?


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JOURNAL OF THE AMERICAN HEART ASSOCIATION
Late Stent Malapposition After Drug-Eluting Stent Implantation: An Intravascular Ultrasound Analysis With Long-Term Follow-Up
Myeong-Ki Hong, Gary S. Mintz, Cheol Whan Lee, Duk-Woo Park, Kyoung-Min Park, Bong-Ki Lee, Young-Hak Kim, Jong-Min Song, Ki-Hoon Han, Duk-Hyun Kang, Sang-Sig Cheong, Jae-Kwan Song, Jae-Joong Kim, Seong-Wook Park and Seung-Jung Park
Circulation 2006;113:414-419
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Late stent malapposition (LSM) had been supposed as important risk factor for stent thrombosis. Its clinical relevance was more emphasized in DES era due to increased risk of late stent thrombosis.
Myeong-Ki Hong, MD, PhD, and the colleagues determined the incidence of LSM after DES implantation in a large, realworld practice of coronary intervention that included complex lesion subsets, evaluated the clinical impact of LSM on longterm prognosis (major adverse cardiac events [MACE]), and identified the mechanisms and the clinical, angiographic, and intravascular ultrasound (IVUS) predictors of LSM in these patients. Overall, 557 patients with 705 native lesions underwent DES implantation (538 Cypher and 167 Taxus) into de novo lesions with IVUS imaging at index and 6-month follow-up (mean interval 6.1±2.1 months).
LSM was documented in 85 lesions in 82 patients (12.1% overall): 3.2% in Cypher and 8.4% in Taxus). Independent predictors of LSM were total stent length (p=0.001, OR=1.021), primary stenting in acute MI (p=0.003, OR=4.263), and CTO lesions (p=0.007, OR=2.594). In the subgroup of elective stenting after conventional balloon predilation, the only independent predictor of LSM was total stent length (p=0.001, OR=1.025).
The mean duration of long-term clinical follow-up after the 6-month angiogram was 10.9±4.4 and 10.1±3.9 months in the LSM and non-LSM groups, respectively (p=0.1). Except for 1 death in a non-LSM patient, there was no other MACE beyond 6 months in either group. There was no significant difference in event-free survival rate between the 2 groups (log-rank probability value=0.67).

Hong MK, Mintz GS, Lee CW, Park DW, Park KM, Lee BK, Kim YH, Song JM, Han KH, Kang DH, Cheong SS, Song JK, Kim JJ, Park SW, Park SJ. Late stent malapposition after drugeluting stent implantation: an intravascular ultrasound analysis with long-term follow-up. (Circulation (2006) 113:414-9)

Sirolimus-Eluting Stent Versus Paclitaxel-Eluting Stent for Patients with Long Coronary Artery Disease

To confirm the pivotal findings from LONG-DES I study, Dr. Seung-Jung Park, MD, PhD, Director of Interventional Cardiology, Asan Medical Center and his colleagues performed a multicenter, prospective, randomized trials (LONG-DES II trial) to compare SES and PES for long coronary lesions (> or =32 mm) and presented the final results at late-breaking trial session of 2005 TCT conference in Washington, D.C. In this trial, SES or PES was randomly performed in 500 patients with long (> or =25 mm) native coronary lesions. The primary end point of the trial was the rate of binary in-segment restenosis according to follow-up angiography at 6 months. The SES and PES groups had similar baseline characteristics. The in-segment binary restenosis rate was significantly lower in the SES group than in the PES group (3.3% versus 14.6%; relative risk 0.23; P<0.001). In-stent late loss of lumen diameter was 0.09+/-0.37 mm in the SES group and 0.45+/-0.55 mm in the PES group (P<0.001). In patients with restenoses, a pattern of focal restenosis was more common in the SES group than in the PES group (100% versus 53.3%, P=0.031). Consequently, SES patients had a lower rate of target-lesion revascularization at 9 months (2.4% versus 7.2%, P=0.012). The incidence of death (0.8% in SES versus 0% in PES,P=0.499) or myocardial infarction (8.8% in SES versus 10.8% in PES, P=0.452) at 9 months of follow-up was not statistically different between the 2 groups. This study was very important clinical trial to conduct head-tohead comparison among two primary first-generation DES for very complex coronary disease.

Kim YH, Park SW, Lee SW, Park DW, Yun SC, Lee CW, Hong MK, Kim HS, Ko JK, Park JH, Lee JH, Choi SW, Seong IW, Cho YH, Lee NH, Kim JH, Chun KJ, Park SJ; Long-DES-II Study Investigators. Sirolimus-eluting stent versus paclitaxeleluting stent for patients with long coronary artery disease. (Circulation (2006) 114:2148-53)

1. The Clinical Results of a Platelet Glycoprotein IIb/IIIa Receptor Blocker (Abciximab: ReoPro)-Coated Stent in Acute Myocardial Infarction Thrombosis (J Am Coll Cardiol 2006;47:933-938)

2. Two-Year Follow-up of the Quantitative Angiographic and Volumetric Intravascular Ultrasound Analysis After Nonpolymeric Paclitaxel-Eluting Stent Implantation (J Am Coll Cardiol 2006;48:2432-2439)

3. Intravascular ultrasound predictors of angiographic restenosis after sirolimus-eluting stent implantation (Eur Heart J 2006;27:1305-1310)

4. Predictors of Restenosis After Placement of Drug-Eluting Stents in One or More Coronary Arteries (Am J Cardiol 2006;97:506-511)

5. Comparison of Simple and Complex Stenting Techniques in the Treatment of Unprotected Left Main Coronary Artery Bifurcation Stenosis (Am J Cardiol 2006;97:1597-1601)

6. Frequency of and Risk Factors for Stent Thrombosis After Drug-Eluting Stent Implantation During Long-Term Follow- Up (Am J Cardiol 2006;98:352-356)

7. Usefulness of Follow-up Low-Density Lipoprotein Cholesterol Level as an Independent Predictor of Changes of Coronary Atherosclerotic Plaque Size as Determined by Intravascular Ultrasound Analysis After Statin(Atorvastatin or Simvastatin) Therapy (Am J Cardiol 2006;98:866-870)

8. Clinical and Angiographic Outcomes After Placement of Multiple Overlapping Drug-Eluting Stents in Diffuse Coronary Lesions (Am J Cardiol 2006;98:918-922)

9. Comparison With Conventional Therapies of Repeated Sirolimus-Eluting Stent Implantation for the Treatment of Drug-Eluting Coronary Stent Restenosis (Am J Cardiol 2006;98:1451-1454)

10. EuroSCORE as a Predictor of Death and Myocardial Infarction After Unprotected Left Main Coronary Stenting (Am J Cardiol 2006;98:1567-1570)

11. Effect of Combination Therapy With Simvastatin and Carvedilol in Patients With Left Ventricular Dysfunction Complicated With Acute Myocardial Infarction Who Underwent Percutaneous Coronary Intervention (Circ J 2006;70:1269-1274)

12. Clinical Significance of Aortic Knob Width and Calcification in Unstable Angina (Circ J 2006;70:1280-1283)

13. Comparison of Sirolimus-Eluting Stent, Paclitaxel-Eluting Stent, and Bare Metal Stent in the Treatment of Long Coronary Lesions (Catheter Cardiovasc Interv 2006;67:181-187)

14. Comparison of the Effectiveness of Sirolimus – and Paclitaxel - Eluting Stents for Small Coronary Artery Lesions (Catheter Cardiovasc Interv 2006;67:589-594)

15. Safety and Efficacy with Drug-Eluting Stent in ST-Segment Elevation and Non-ST-Segment Elevation Myocardial Infarction (Clin Cardiol 2006;29:199-203)

16. The Preventive Effect on In-Stent Restenosis of Overlapped Drug-Eluting Stents for Treating Diffuse Coronary Artery Disease (The Korean Circulation Journal 2006;36:17-23)

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18. The predictive factor of mortality and prognosis of cardiovascular patients admitted at coronary care unit (The Korean Journal of Medicine 2006;70:386-392)

19. Incidence and Predictors of Late Recurrence After Beta-Radiation Therapy with a 188Re-MAG3-filled Balloon for Diffuse In-Stent Restenosis (American Heart Journal. 2006 Jan;151(1):158-63)

2005

In Left Main Disease, DES Shows Similar Safety and Superior Efficacy Compared to BMS

Left main stenting have been common practice in Korea and its clinical experience in Asan Medical Center have been ahead of interventional cardiology.
Seung-Jung Park, MD, PhD, and his colleagues had published the remarkable results of left main intervention with Drug Eluting Stent in JACC. The researchers analyzed data from 102 patients with elective sirolimus-eluting stent implantation for de novo unprotected left main disease enrolled. Consecutive 102 BMS patients in the analysis came from earlier enrollment periods of the registry.
Despite more complex procedural findings with DES, DES group showed more favorable angiographic (restenosis rate; 7.0% vs. 30.3%, p < 0.001) and clinical outcomes (freedom from MACE [death, MI, and TLR]; 98.0 +/- 1.4% vs. 81.4 +/-3.7%, p = 0.0003) as compared to BMS group. This study had been provocative and pivotal study to demonstrate the superior efficacy and similar safety of DES for unprotected left main disease.

Park SJ, Kim YH, Lee BK, Lee SW, Lee CW, Hong MK, Kim JJ, Mintz GS, Park SW. Sirolimus-Eluting Stent implantation for unprotected left main coronary artery stenosis: comparison with bare metal stent implantation. (J Am Coll Cardiol. (2005) 45:351-6)

Cilostazol Reduce Coronary Thrombosis after Stenting

The investigators in Asan Medical Center conducted a registry study to determine the efficacy of triple antplatelet therapy (dual antiplatelet therapy plus cilostazol) compared with standard dual antiplatelet study (aspirin and clopidogrel) after bare-metal stenting.
Patients undergoing successful coronary stenting were divided into dual antiplatelet therapy (1,597 patients) and triple antiplatelet therapy (1,415 patients) groups. The primary end point included death, myocardial infarction, target lesion revascularization, or stent thrombosis within 30 days. The secondary end point was side effects of study drugs, including major bleeding, vascular complication, hepatic dysfunction, and hematological complications. Among 30 days after stenting, the primary end point had occurred more commonly in dual group (0.8% vs. 0.3%, p = 0.085). Stent thrombosis within 30 days was significantly lower in triple group than in dual group (0.1% vs. 0.5%; p = 0.024). The independent predictors of stent thrombosis were primary stenting (OR 7.9, 95% CI 2.0 to 30.8, p = 0.003) and triple therapy (OR 0.12, 95% CI 0.015 to 0.98, p = 0.048). The overall adverse drug effects, including major bleeding, neutropenia, and thrombocytopenia, were similar between two groups (1.8% vs. 2.6%, p = 0.104).
Based on accumulated data regarding the preventive effect of cilostazol on restenosis and thrombosis after stenting, which especially derived from Asan Medical Center, the additive use of cilostazol on dual antiplatelet therapy have been widely applied in case of complex, high-risk disease.

Lee SW, Park SW, Hong MK, Kim YH, Lee BK, Song JM, Han KH, Lee CW, Kang DH, Song JK, Kim JJ, Park SJ. Triple versus dual antiplatelet therapy after coronary stenting: impact on stent thrombosis. (J Am Coll Cardiol (2005)46:1833-7)

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2. Effectiveness of Sirolimus-Eluting Stent Implantation for the Treatment of Ostial Left Anterior Descending Artery Stenosis With Intravascular Ultrasound Guidance (J Am Coll Cardiol 2005;46:787-792)

3. Comparison of Quantitative Angiographic Parameters with the Magnitude of Neointimal Hyperplasia Measured by Volumetric Intravascular Ultrasound in Patients Treated with Bare Metal and Nonpolymeric Paclitaxel-Coated Stents (Am J Cardiol 2005;95:105-107)

4. Intravascular Ultrasound Assessment of Neointima Distribution and the Length of Stent that was free of Intravascular Ultrasound-Detectable Intimal Hyperplasia in Paclitaxel-Eluting Stents (Am J Cardiol 2005;95:107-109)

5. Impact of Diabetes Mellitus on Angiographic and Clinical Outcomes in the Drug-Eluting Stents Era (Am J Cardiol 2005;96:1389-1392)

6. Long-term outcomes after treatment of diffuse in-stent restenosis with rotational atherectomy followed by beta-radiation therapy with a 188Re-MGA3-filled balloon (Int J Cardiol 2005;99:201-205)

7. Comparison of Angiographic and Clinical Outcomes between Rotational Atherectomy versus Balloon Angioplasty Followed by Radiation Therapy with a Rhenium-188-mercaptoacetyltriglycine-filled Balloon in the Treatment of Diffuse In-stent Restenosis (Int J Cardiol 2005;102:179-185)

8. Randomized Comparison of Carbon Ion-implanted Stent versus Bare Metal Stent in Coronary Artery Disease: The Asian Pacific Multicenter Arthos Stent Study (PASS) trial (Am Heart J 2005;149:336-341)

9. Comparison of Angiographic and Clinical Outcomes between Rotational Atherectomy and Cutting Balloon Angioplasty Followed by Radiation Therapy with a Rhenium 188-mercaptoacetyltriglycine-filled Balloon in the Treatment of Diffuse In-stent Restenosis (Am Heart J 2005;150:557-582)

10. Incidence and Predictors of Late Recurrence after –Radiation Therapy with a 188Re-MGA3-Filled Balloon for Diffuse In-stent Restenosis (Am Heart J 2005;151:158-163)

11. Elevated Preprocedural High-Sensitivity C-Reactive Protein Levels are Associated With Neointimal Hyperplasia and Restenosis Development After Successful Coronary Artery Stenting (Circ J 2005;69:1477-1483)

12. Two-Year Follow-Up Intravascular Ultrasound Analysis After Bare Metal Stent Implantation in 120 Lesions (Catheter Cardiovasc Interv 2005;65:247-253)

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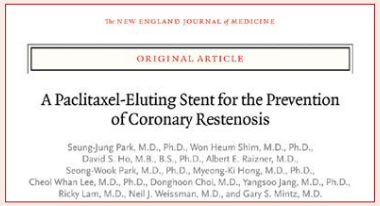
2003-2004

A Paclitaxel-Eluting Stent for the Prevention of Coronary Restenosis


The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

A Paclitaxel-Eluting Stent for the Prevention of Coronary Restenosis

Seung-Jung Park, M.D., Ph.D., Won Heum Shim, M.D., Ph.D., David S. Ho, M.B., B.S., Ph.D., Albert E. Raizner, M.D., Seong-Wook Park, M.D., Ph.D., Myeong-Ki Hong, M.D., Ph.D., Cheol Whan Lee, M.D., Ph.D., Donghoon Choi, M.D., Yangsoo Jang, M.D., Ph.D., Ricky Lam, M.D., Neil J. Weissman, M.D., and Gary S. Mintz, M.D.

Seung-Jung Park, MD, PhD, Director of Interventional Cardiology, Asan Medical Center, presented clinical data from its Asian-based ASPECT trial of paclitaxel-coated coronary stents Sept. 14, 2001 during the Transcatheter Cardiovascular Therapeutics (TCT) conference in Washington, D.C. This trial was historically and academically remarkable study because it is a first clinical study published in New England Journal of Medicine in Korea.

One of the early pilot trials using a recently developed taxane, paclitaxel (Taxol), was ASPECT trial, a dose-finding trial sponsored by Cook Pharmaceuticals and conducted in 3 cardiac centers in Asia. In this trial, stents coated with highdose (3.1 mcg/mm2) and low-dose (1.3 mcg/mm2) paclitaxel were compared with uncoated stents (approximately 58 patients in each group). At 6-month follow-up, the paclitaxelcoated stents appeared to be associated with better outcomes than those seen in the control group, with binary restenosis rates at 6 months of 4% for the high-dose group, 12% for the low-dose group, and 27% for the control. This represented late loss reduction of lumen size of 1.04 mm in the control, 0.57 mm in the lowdose, and 0.29 mm in the high-dose arms, respectively. However, one potential safety issue was a relatively high incidence of late in-stent thrombosis in the cohort of patients taking the antiplatelet regimen of cilostazol (Pletal) plus aspirin rather than ticlopidine (Ticlid) plus aspirin. In this small subset, there were 3/12 (25%) instances of stent thromboses in the high-dose arm and 1/15 (7%) in the lowdose arm, vs none in the control arm.

Park SJ, Shim WH, Ho DS, Raizner AE, Park SW, Hong MK, Lee CW, Choi D, Jang Y, Lam R, Weissman NJ, Mintz GS. A paclitaxel-eluting stent for the prevention of coronary restenosis. (N Engl J Med. (2003) Apr 17; 348(16):1537-45)

ASPECT IVUS Substudy Released Concordant Findings

IVUS substudies from ASPECT trials, which were sequentially published in Circulation, confirmed the active findings of overall study. Serial volumetric intravascular ultrasound (IVUS) was performed to evaluate the effect of a paclitaxel coating on instent intimal hyperplasia (IH) and complete follow-up IVUS were available in 81 patients (25 controls, 28 a low-dose, and 28 a high dose).

At 6 months follow-up study, there was a stepwise reduction in IH accumulation within the stented segment with increasing paclitaxel dose (31+/-22 mm^3 in control, 18+/-15 mm^3 in low dose, and 13+/-14 mm^3 in high dose, P<0.001). Post hoc analysis showed less IH accumulation when low-and highdose patients were compared with control (P=0.009 and P<0.001, respectively), but not when low-dose patients were compared with high-dose patients (P=0.2). However, there was no significant change in the reference segments according to drug-dose. During follow-up, the follow-up IH volume was lower in negative remodeling lesions (5+/-7 mm^3) compared with positive remodeling (20+/-14 mm^3, P=0.0051) and intermediate remodeling lesions (20+/-15 mm^3; P=0.0043). Consecutive IVUS substudies from ASPECT trials provided the detailed information about vascular responses to proto-type of DES.

Hong MK, Mintz GS, Lee CW, Song JM, Han

KH, Kang DH Song JK, Kim JJ, Weissman NJ, Feamot NE, Park SW, Park SJ; ASian Paclitaxel-Eluting Stent Clinical Trial. Paclitaxel coating reduces in-stent intimal hyperplasia in human coronary arteries: a serial volumetric intravascular ultrasound analysis from the Asian Paclitaxel-Eluting Stent Clinical Trial (ASPECT). (Circulation (2003) 107:517-20)

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2. Comparison of Coronary Plaque Rupture Between Stable Angina and Acute Myocardial Infarction (Circulation 2004;110:928-933)

3. Intravascular Ultrasound Assessment of Patterns of Arterial Remodeling in the Absence of Significant Reference Segment Plaque Burden in Patients with Coronary Artery Disease. (J Am Coll Cardiol 2004;42:806-810)

4. Early and Late Clinical Outcomes after Primary Stenting of the Unprotected Left Main Coronary Artery Stenosis in the Setting of Acute Myocardial Infarction (Int J Cardiol 2004;97:73-76)

5. Change of Multiple Complex Coronary Plaques in Patients with Acute Myocardial Infarction: A Study with Coronary Angiography (Am Heart J 2004;147:281-286)

6. Randomized Comparison of Debulking Followed by Stenting versus Stenting Alone for Ostial Left Anterior Descending Artery Stenosis: Intravascular Ultrasound Guidance (Am Heart J 2004;148:663-669)

7. Late Intravascular Ultrasound Findings of Patients Treated with Brachytherapy for Diffuse in-stent Restenosis (Catheter Cardiovasc Interv 2004;63:208-214)

8. Bail-out Stenting for Left Main Coronary Artery Dissection during Catheter-Based Procedure: Acute and Long-term Results (Clin Cardiol 2004;27:393-395)

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10. Impact of Preinterventional Arterial Remodeling on Neointimal Hyperplasia After Implantation of (Non-Polymer-Encapsulated) Paclitaxel-Coated Stents: A Serial Volumetric Intravascular Ultrasound Analysis from the ASian Paclitaxel-Eluting Stent Clinical Trial (ASPECT) (Circulation. 2003 Sep 16;108(11):1295-8)

CONFERENCE

CardioVascular-Summit-TCTAP

관상동맥 중재시술 국제학술회의

www.summit-tctap.com ▼

Course Directors

Seung-Jung Park, MD / Martin Bert Leon, MD / Gregg W. Stone, MD / Alan C. Yeung, MD
Myeong-Ki Hong, MD / Bon-Kwon Koo, MD / Seung-Whan Lee,MD / Duk-Woo Park, MD

We host the premier conference for the field of interventional cardiology

CardioVascular Summit-TCTAP is an annual international conference focusing on interventional cardiology to be held in April in Seoul, Korea. Over the past two decades, this has played an integral part in the Asia Pacific region to educate physicians and all affiliated medical professionals who are specialized and interested in this field. In close collaboration with global working groups, it has become one of the leading names representing interventional therapy, and it will continuously grow to achieve the ultimate goal of improving the quality of medical care for patients.

관상동맥중재시술 국제학술회의는 심장중재시술을 주제로 매년 4월 서울에서 개최됩니다. 본 학회는 지난 20년 동안 아시아-태평양 지역의 의사들과 관련 종사자들을 교육하는 데 있어 중요한 역할을 수행해왔습니다. 또한 글로벌 그룹들과의 학술 교류를 통해 심장질환을 앓고 있는 환자들을 위한 치료법 개선에 이바지하는 등 명실공히 최신 지식 교류의 장으로 자리매김 하였습니다.

In conjunction with TCTAP…

CTO LIVE

만성폐색병변 중재시술 국제학술회의

Never Give Up

CTO LIVE is an intensive one-day scientific course which includes interactive live case demonstrations operated by world's leading experts in this field, lectures and dynamic discussion between the group of panel and attendees. This course is focused on the advanced techniques and device selection for Chronic Total Occlusions to optimize procedural success, update on the state-of-the-art techniques, new devices and review the clinical indications and evidence for Chronic Total Occlusion Intervention. CTO LIVE is annually held on the first day of TCTAP since 2013.

만성폐색병변 중재시술 국제학술회의 (CTO LIVE)는 2013년 이후로 매년 4월 개최되는 TCTAP의 첫째 날 진행되고 있습니다. 본 학회는 세계적인 석학들의 생중계 시연 및 강의, 참가자와 패널 그룹이 함께 참여하는 토론을 포함한 하루 과정으로 구성됩니다. 이 과정은 선진 기술에 중점을 두고 있으며, procedural success를 최대한으로 높이는 Chronic total occlusion과, 최신의 기술과 새로운 장비의 업데이트 및 임상에서 직접 활용될 수 있는 치료법을 공유하여 환자들의 치료의 질을 높여나가고 있습니다.

IMAGING & PHYSIOLOGY SUMMIT

심혈관 이미지 국제학술회의

Functional Angioplasty Integrated Use of FFR & IVUS

IMAGING&PHYSIOLOGY SUMMIT began in February 2007. It is designed to provide an overview of new clinical applications related to invasive & non-invasive image analysis and integrated use of FFR & IVUS. IMAGING&PHYSIOLOGY SUMMIT is annually held in the part of TCTAP from 2016.

심혈관 이미지 국제학술회의는 2007년 2월 처음 개최되었습니다. 심혈관 질환을 진단하는 침습적, 비침습적 이미지 분석 및 FFR과 IVUS의 통합적 사용 등 다양한 심혈관계 영상 기법을 공유하고 실제 임상에 적용할 수 있는 프로그램을 제공하고 있습니다. 2016년부터는 TCTAP에서 함께 개최되고 있습니다.

"TCTAP has driven discoveries, innovations and initiatives that advance interventional cardiology medicine for over 20 years.

1995

The 1st Angioplasty Summit was held at the auditorium in Asan Medical Center, Seoul.

1997

Dr. Gary S. Mintz, chief medical official of the Cardiovascular Research Foundation (CRF) has joined as course director.

2000

For the first time in Korea, it performed a live demonstration of percutaneous intervention procedures via satellite transmission to TCT in Washington, DC.

2001

Wide range of topics related to Interventional Cardiology set up. (Peripheral Vascular Intervention Session added)

2002

CardioVascular Research Foundation (CVRF) was founded and TCTAP jumpstarted to systematically run by the support of CVRF.

2000

Summitmd.com was launched to educate physicians and improve communications between researchers, healthcare professionals and industry all over the world.

2004

The location of the meeting changed to the new convention center, Sheraton Grande Walkerhill Hotel, Seoul, with over 2,000 total attendees, including 200 international faculty members.

Abstracts were published in a special supplement of International Journal of Cardiovascular Intervention (IJCI).

2005

At its 10th anniversary, the name of the meeting changed to Angioplasty Summit-TCT Asia Pacific co-sponsored by Cardiovascular Research Foundation group (CRF) in USA.

Few of international organization, including EuroPCR started to join academic program development. Abstracts were published in the American Journal of Cardiology (AJC) from this year.

2000

2nd Left Main and Bifurcation Summit was held in conjunction with 13th Angioplasty Summit-TCT Asia Pacific. It opened Endovascular Arena dedicating to interesting topics, new devices and trial results in the Endovascular field.

2010

The name of the conference changed as ANGIOPLASTY SUMMIT-TCTAP. As a leading interventional cardiology conference, emerging field and hot topics on FFR and TAVI rooted in evidence-based practice were discussed.

2011

TCTAP Fellowship Course was initiated, specially designed for fellows, young cardiologists, and all health-related professionals who need to understand and apply the basic principles of patients' care and get the latest concept and knowledge on each topic.

The 1st TCTAP Award "Master of the Masters" was established to recognize and acknowledge his/her meaningful contribution in the field of cardiovascular medicine and to the growth of TCTAP.

2012

More global partners participated in "Partnership Session with Global Societies".

Live demonstrations of Renal Denervation Therapy and Transcatheter Aortic Valve Implantation (TAVI) were performed for the first time in Korea.

2010

CTO LIVE, one-day interactive course composed of lectures, case studies and live demonstrations, started to held together.

TCTAP Award "Best Young Scientist Award" was established to acknowledge and recognize mid-level young clinical investigators.

2014

45 global partners and regional affiliates from 18 countries had joined in organizing programs.

All accepted abstracts are published in an online format as a supplement issue of the Journal of the American College of Cardiology (JACC).

2015

TCTAP had celebrated its 20th Anniversary.

2016

The official Facebook page was opened to share useful information and enjoyable moments.

The webcast was also launched specifically to ensure attendees to take lecture and live case demonstrations through the online service.

2017

A wide array of interesting themes includes CTO, Endovascular, Coronary and Valve showcased during the meeting.

To provide a better academic and accessible infrastructure, a Poster Abstract session was introduced as digital format of touch screen and TCTAP Wrap-up Interview was available to watch on live via webcast.

AP VALVES

심장판막 중재시술 국제학술회의

www.ap-valves.com

Course Directors

Runlin Gao, MD / Eberhard Grube, MD / Seung-Jung Park, MD
Duk-Woo Park, MD / Jung-Min Ahn, MD




AP VALVES (which was TAVI SUMMIT) was started in 2011 as the first international conference on Transcatherter Aortic Valve Implantation in Asia Pacific region with live case transmissions featuring world's leading experts with 450 attendees from 18 countries. In order to find more suitable therapy for Asian patients who are different from the Western population in body type and the cause of disease, this meeting has tried to set up the guideline and to find the best solution for these challenging issues. AP VALVES attracts more attendees every August as it continues to grow in scope and depth of content.

2011년부터 시작한 심장판막 중재시술 국제학술회의 (AP VALVES, 구 TAVI SUMMIT)는 아시아 태평양 지역에서 대동맥 판막 치환술을 주제로 개최된 첫 번째 학회로, 18개국 약 450여명의 참가자가 참석하고 있습니다. 아시아인들에게는 신체 유형과 질병 원인의 차이로 인하여 서양인들과는 차별화된 질병 치료법이 적용되어야 합니다. 본 학회에서는 이처럼 아시아인들에게 적합한 치료법과 발병 요인을 찾기 위해 가이드라인을 수립하고 최선의 해결 방안을 연구하고 있습니다. 또한 매년 더 많은 참가자들에게 향상된 학술 콘텐츠를 제공할 수 있도록 노력을 기울이고 있습니다.

COMPLEX PCI : Make it Simple!

복합 심장중재시술 국제학술회의

www.complex-pci.com

Course Directors

Antonio Colombo, MD / Toshiya Muramatsu, MD / Teguh Santoso, MD
Chiung-Jen Wu, MD / Seung-Jung Park, MD / Duk-Woo Park, MD




COMPLEX PCI: Make it Simple is a newly designed meeting to provide young interventionists of Asia Pacific region with a practical and comprehensive knowledge of interventional techniques from the bottom up to the newest trend in Complex Coronary Intervention field in every December from 2016. With scientific sessions focused on live case demonstrations and the lively debate, participants can learn technical tips for real world practice applying Rotablation, Cutting Balloon, Angioscope, Angiographic-Guided BVS, Imaging-& Physiology-Guided PCI, DES, BVS, TRI, etc. to each lesion subset.

복합 심장중재시술 국제학술회의 (COMPLEX PCI: Make it simple)은 2016년 새롭게 개최된 학회로 아시아-태평양 지역의 젊은 심장내과의들에게 복합적 관상동맥 중재시술에 대한 기초 개념부터 최신의 술기까지 총정리 할 수 있는 교육의 장입니다. 아시아 각 국을 대표하는 전문가들의 생중계 시연과 활발한 토론을 통해 참가자들은 Rotablation, Cutting Balloon, Angioscope, Angiographic-Guided BVS, Imaging-& Physiology-Guided PCI, DES, BVS, TRI 등 각 주제별로 실제 임상에 적용할 수 있는 기술들을 습득할 수 있습니다.

EDUCATION

CVRF has provided integrated training opportunities for young talented physicians specializing in medical treatment and heart diseases. Each training program is internationally recognized and provides a network of support, fostering an environment that encourages the development of excellence in all areas of interventional cardiology and exploration of areas of research chosen by the fellows.

심장혈관연구재단은 세계 유명 심장센터와 서울아산병원 심장병원과 협력하여 다양한 연수 프로그램을 (ACT Program, Fellowship Program) 운영하고 있습니다. 연구자들에게 최신의 기술을 경험할 수 있는 기회를 제공하고 나아가 여러 센터들과의 협력을 통해 개인의 술기와 연구를 더욱 발전 시킬 수 있는 계기를 제공하고 있습니다. 본 재단이 지원하는 연수 프로그램들은 능력 있는 젊은 의사들에게 최신의 지식과 경험의 기회를 제공해 주고자 더욱 다양한 프로그램으로 끊임없이 개발되고 있습니다.

ACT Program

Asan Medical **C**enter **I**nterventional Cardiology **T**raining Program

Monday – Thursday
Left Main, FFR & IVUS Guided PCI, CTO LIVE, TAVI LIVE

www.cvrf.org/act ▼

Organizing Directors
Seung-Jung Park, MD

AsDn MeGicDl CenWr AIfiliDWG PhysiciDns
Jung-Min Ahn, MD / Soo-Jin hang, MD / Cheol Whan i ee, MD / Seung-Whan i ee, MD
Pil e yung i ee, MD / Duk-Woo Park, MD / Seong-Wook Park, MD / Seung-Jung Park, MD

Invited Professors
Yasushi Asakura, MD / Bon-hwon hoo, MD / Toshiya Muramatsu, MD
henya Nasu, MD / Masahiko I chiai, MD / Etsuo Tsuchikane, MD

Goal and Mission

ACT Program is an internationally recognized 4-day learning program, which provides the highest quality training in the field of interventional cardiology. Trainees will learn and develop clinical knowledge, procedural skills and techniques required as a specialist in this field and will build a close network with the colleagues and the faculties both regionally and internationally.

ACT 프로그램은 소수 정예의 4일 집중 교육 프로그램입니다. 참가자의 인원을 소수로 제한하여 참가자들에게 보다 더 효율적인 교육 프로그램을 제공하기 위해 노력하고 있습니다. 양질의 프로그램을 제공하기 위해 전세계의 저명한 전문가를 초빙하여 각 세션을 운영하고 있으며, 다양한 프로그램 및 워크샵을 통해 참가자들이 심장 중재시술 분야 최고 전문가가 되기 위해 필요한 능력 개발에 도움을 주고 있습니다.

Program Organization

This program is designed and run by CVRF and the faculties of the Heart Institute of Asan Medical Center. At the end of the training day, trainees will receive a certificate of completion.

Facilities

Learning activities take place at atrium at the Asan Medical Center, Seoul, which is the largest medical institute in Korea with a total of 2,700 beds. The Heart Institute at the Asan Medical Center is divided into several functions, including Aortic Disease Center, Peripheral Artery Disease Center, Atrial Fibrillation Center, Heart Failure & Cardiac Transplantation Center, Cardiovascular Disease Prevention & Rehabilitation Center, Cardiac Imaging Center, Valvular Heart Disease Center, and Ischemic Heart Disease Center.

Target Audience

- Interventional cardiologists
- General cardiologists
- Physicians interested in cardiology and vascular medicine
- Radiologists
- Vascular surgeons
- Interventional pediatricians
- Nurses
- Technologists
- Vascular medicine specialists

Curriculum

During four-day of the program, trainees are provided with instruction and experience in patient care and management, diagnosis, and prevention and treatment of cardiovascular disease.

1. Live Case Demonstrations

- Complex Coronary Intervention: LM, Bifurcation, CTO, Long Lesion, Small Lesion, Multi-Vessel
- Endovascular Intervention: Carotid, Renal, SFA, BTK, Abdominal, Aortic Aneurysm
- Structural Heart Disease Intervention: PFO, ASD, AVR, PMV
- Transcatheter Valve Therapies

2. State-of-the-Art Lectures

- Current Status of DES & BVS
- Technical Tips & Tricks: LM, Bifurcation, Ostial Lesion, Multi-Vessel, CTO, AMI/ACS, Carotid, Peripheral Intervention, Structural Heart Disease, Transcatheter Valve Therapies, etc.
- Imaging: IVUS, VH-IVUS, OCT, CT, MR, FFR, etc.
- Adjunctive Pharmacology
- Up-to-date Clinical Trials and Registries
- How to make good clinical trials

3. Lunchtime Activities

- TAVI Session
- Antiplatelet Options for PCI Patients: Unsolved Issues and Solutions
- Case Presentation & Discussion: Nightmare Complications-Untangling the Knots!
- Hands-on Learning: IVUS, VH-IVUS & OCT
- Cath Lab Experience

Registration Cost

USD 3,500 per 1 participant
(It includes tuition, accommodation, breakfast and lunch)

Contact Information

Tel 82-2-3010-4792
Fax 82-2-475-6898
E-mail yuyun@summitmd.com

Fellowship Training Program

Fellowship Training Program is organized in rotations that denote the steps of the fellows from observer to second operator progressively. CVRF is attempting to install a training program that helps to meet the needs of its fellows. Trainees can learn how to access optimal treatment approaches to various patients to observe performances of different procedures and to listen to audiovisual education lectures from opinion leaders in world renowned centers. They can also broaden their horizons to the supportive modalities to help procedural decisions and strategies such as imaging measurement and data management through these programs.

본 재단은 국제적으로 정평이 나 있는 심장센터 및 서울아산병원 심장내과와 연계한 전문의 연수 프로그램을 운영하고 있습니다. 젊은 심장내과 의사들에게 생생한 현장실습 및 최신 지식과 술기를 습득할 수 있는 기회를 제공함으로써 중재시술 분야의 새로운 인재들을 양성하는데 그 목적을 두고 있습니다. 연구자들의 편의에 따라 장, 단기 프로그램을 운영하여 심장중재시술 분야의 술기와 지식을 직접적으로 체득하도록 하여, 세계 최고의 심장센터에서의 젊은 심장내과 의사들의 연수경험은 지식의 습득, 연구 업적 및 연계 연구의 활용, 선진화된 시스템의 체험이라는 측면에서 이들 연수자들에게 매우 중요한 경험이 되고 있습니다.

	Candidates	*Duration*
The Short-term Training Program	International fellows and young interventionists (under 40) of Interventional Cardiology 2~3 participants every semester	2 months (for 8 weeks)
The Long-term Training Program	Young Interventionists (under 45) including regular instructors and assistant professors (only Korean) 1 participant every year	1 year Clinical activity (3 months) + Research development (9 months)
IVUS Fellowship Program	Fellows and young interventionists who are interested in IVUS (Contribution as a clinical fellow) 2 participants per year	A. 6 months B. 1 year

Contact Information
Tel 82-2-3010-4792
Fax 82-2-475-6898
E-mail yuyun@summitmd.com

Websites

cvrf.org

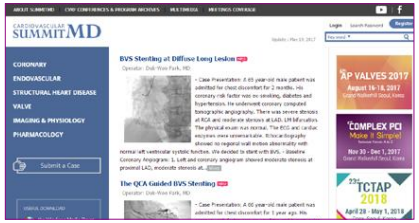
CVRF runs its website, cvrf.org containing content with detailed information about various activities, annual meetings and CVRF itself.

심장혈관연구재단은 cvrf.org 공식 웹사이트를 통해 국제 학술회의, 연구, 교육 프로그램 등을 소개하는 등 많은 정보를 제공하고 있습니다.

summitMD.com

Case-oriented On-line Mutual Communication Platform

summitMD.com was launched under the title of "Explore and Interact" to inform and educate physicians and allied health care professionals in the field of interventional cardiology and to improve communication between the experts and young cardiologists all around the world. As a case-based online learning site, summitMD.com now features resources and educational information with images and videos for more than 11,000 members.



summitMD.com 사이트는 전 세계 심장내과 의사들 간의 학술적 교류를 그 목표로 만들어진 온라인 교육사이트 입니다. 흥미 있고 교육적인 증례들을 등재하고, 그와 관련된 석학들의 강의 자료 및 주제별 리뷰뿐만 아니라, 실제 임상에서 도움이 될 수 있는 시술상의 요령이나 비법 (tips and tricks) 들과 심혈관 관련 기초 지식, 최신 기술 및 최신 치료 기구들을 총망라하여 소개하고 있습니다. 특히 여러 심장내과 의사들이 남긴 다양한 케이스에 대한 질문에 그 분야와 연관된 심장내과 전문의들이 답변을 함으로써, 상호간의 의견과 생각을 공유할 수 있는 공간을 제공하고 있습니다.

It provides 6 main categories

1. CORONARY	- Left Main - Long Lesion - Others	- Bifurcation - In-stent Restenosis	- CTO - Ostial
2. ENDOVASCULAR	- Carotid - Peripheral Disease (SFA, BTK, Iliac, Poplitial, Subclavian)	- Abdominal Aorta	- Renal - Others
3. STRUCTURAL HEART DISEASE	- HOCM - Congenital Heart Disease	- VALVE - Others	- TAVR
4. IMAGING & PHYSIOLOGY	- IVUS - FFR - Echocardiography	- VH-IVUS - CT&MRI - Coronary Angiography	- OCT - NIR - Others
5. PHARMACOLOGY	- Antiplatelet - Others	- Anticoagulant	- Lipid & Inflammation

Publication

The Heart Beat

CVRF has issued a yearly newsletter called "The Heart Beat" since 2010. In every issue it presents featured articles relevant to CVRF's various research, events, activities and distinguished achievement.

심장혈관연구재단은 2010년도부터 매년 "하트비트"라는 재단 소식지를 발간하고 있습니다. 매 회마다 본 재단의 다양한 연구활동, 이벤트, 업적 등과 관련한 다채로운 기사들이 실리고 있습니다.

2017

April 2017, Volume 7

This Issue Include:
- PCI and Drugs Equally Beneficial for Treating Coronary Chronic Total Occlusion: DECISION-CTO Randomized Trial
- Coronary Artery Bypass Surgery versus Drug-Eluting Stent Implantation for Left Main or Multivessel Coronary Artery Disease: A Meta-Analysis of Individual Patient Data

And more...

2016

April 2016, Volume 6

This Issue Include:
- Effect of Statin Treatment on Modifying Plaque Compositions: A Double-Blind, Randomized Study
- Long-term Mortality After Coronary Artery Bypass Graft Surgery versus Drug-eluting Stents Implantation for Non-diabetic Patients with Multivessel Coronary Artery Disease: Analysis of Pooled Data from the BEST and SYNTAX Trials

And more...

2015

April 2015, Volume 5

This Issue Include:
- Interview: Founder and Course Director Seung-Jung Park, MD on the 20th Anniversary of TCTAP
- BEST Study: Trial of Everolimus-Eluting Stents or Bypass Surgery for Coronary Disease

And more...

2010

Spring 2010, Volume 1

This Issue Include:
- Welcome Message from the Chairman
- DUAL ANTIPLATELET THERAPY AFTER STENT IMPLANTATION Results Published in the New England Journal of Medicine

And more...

2011

Spring 2011, Volume 2

This Issue Include:
- Randomized Trial of Stents vs. Bypass Surgery in Left Main Coronary Disease: The PRECOMBAT Trial Results Published in the New England Journal of Medicine
- Program Highlights : The 16th ANGIOPLASTY SUMMIT-TCTAP 2011

And more...

2012

Spring 2012, Volume 3

This Issue Include:
- Program Highlights: The 17th ANGIOPLASTY SUMMIT-TCTAP 2012
- Result from ACC.12 Impact Interventional Practice

And more...

2014

March 2014, Volume 4

This Issue Include:
- Inside TCTAP 2014: 'Gear Up for the Next Innovation'
- ASAN PCI Registry: Fewer Stents and Better Outcomes after Routine FFR Measurement Data

And more...

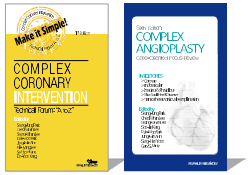
Books

CVRF published total 7 books since its inception. The book of Complex Angioplasty within the series has had a reputation for providing readers with the most authoritative reference source that helps find useful solutions for any difficulty they face with in a daily procedure. In year 2016, CVRF also published 1st edition of Complex Coronary Intervention celebrating the 1st chapter of "COMPLEX PCI: Make it Simple" Technical Forum: A to Z.

본 재단은 교육적 효과를 배분하고 혈관 중재시술의학 영역에서의 실제적 접근법에 대한 지침을 줄 수 있는 의학 서적을 출판하는 일에 매진해 왔습니다. 실제 시술 시 부딪히는 기술적 장애를 극복하는데 유용한 해답들이 전세계의 일등 선두주자들의 노력으로 활자화되어 소개되고 있습니다.

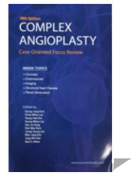
2016

- Complex Coronary Intervention, 1st Edition, ***2016***
- Complex Angioplasty (Case-Oriented Focus Review), 6th Edition, ***2016***



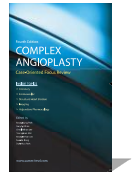
2012

- Complex Angioplasty (Case-Oriented Focus Review), 5th Edition, ***2012***



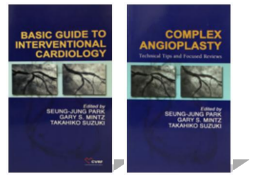
2010

- Complex Angioplasty (Case-Oriented Focus Review), 4th Edition, ***2010***



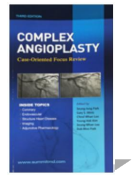
2006

- Complex Angioplasty Technical Tips and Focused Reviews(Basic Guide to Interventional Cardiology: Cases from SummitMD.com with Focused Reviews), ***2006***
- Complex AngioHandbook of Left Main Stem Disease, ***2006***



2009

- Complex Angioplasty (Case-Oriented Focus Review), 3rd Edition, ***2009***



FUNDRAISING

"Leading to greatness for the better human life"

"작은 정성이 건강한 삶의 밑거름이 됩니다."

CVRF has been conducting a predominant role in scientific researches, conferences and educational trainings to develop treatment and preventative methods for patients with cardiovascular disease and further our goal of "leading to greatness for the better human life."

From 2010, CVRF opened a new door of Fundraising to achieve our ultimate goal. Everyone is eligible to be a part of CVRF's supporters. Your contribution will be used for countless individuals with heart disease to improve their survival rate and quality of life.

심장혈관연구재단은 설립 이래 심장혈관질환에 대한 연구와 학술 회의의 개최, 교육 프로그램의 운영 등을 통해 세계 각국의 심장내과 의사들에게 최신 지견 및 술기를 습득할 수 있는 기회의 장을 마련하고, 나아가 우리나라의 심장혈관질환 치료법의 발전 및 임상수준을 세계에 알리는 데에 기여하고 있습니다. 이러한 다양한 재단 활동 지원하고자 2010년부터 후원사업을 진행 하고 있습니다. 후원 사업을 통해 모아진 후원금은 심장질환을 앓고 있는 환자들을 위한 더 좋은 치료법과 예방법 개발 등의 심장질환 연구 활동에 쓰입니다. 이는 나아가 대국민 보건 향상이라는 본 재단의 궁극적인 목표를 이루는 밑거름이 될 것입니다. 여러분의 많은 관심과 성원 부탁 드립니다.

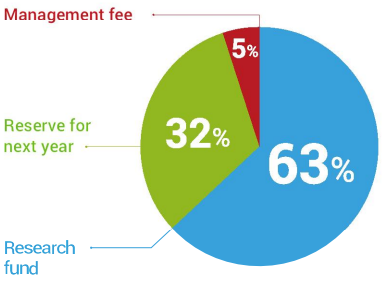
Report for Fundraising

In accordance with CVRF's mission, CVRF fundraising was formed to provide financial assistance to qualified medical professionals who propose research projects and to patients with cardiovascular disease who cannot afford the medications they need. A wide range of projects have been achieved by many individuals and associations over several years to help fulfill this mission of this organization.

Most of our funding comes from donations given by individuals and from some percentage of registration fees for the conferences hosted by CVRF. And most of the fundraising had supported the research projects and long-term fellowship training program for Korean doctors.

심장혈관연구재단의 후원회에서는 경제적으로 어려운 환자들과 관련 분야의 연구과제를 제안하는 심장전문의들에게 재정적 지원을 펼치고 있습니다. 지난 수년간 많은 개인 후원자들과 기관들의 도움으로 이러한 사명을 성공적으로 달성할 수 있었습니다. 후원금의 대부분은 개인의 기부금으로 이루어져 있으며, 심장혈관연구재단에서 주최하는 학술회의의 등록비 중 일부 역시 후원금으로 적립됩니다. 2016년의 후원금은 연구 과제와 국내 의사들의 장기 연수 프로그램을 지원하는 데에 사용되었습니다.

The Expenses of Fundraising in 2016



Contact Information

Tel 82-2-3010-7255
Fax 82-2-475-6898
E-mail cvrfund@summitmd.com