Vulnerable Patient Meeting
A Cardialysis Event

18th 20th
JUNE 2017

GREECE
CRETE HERAKLION
ATLANTIS HOTEL

PROGRAM
DAY 1 Basics
- Sudden Death and Vulnerable Patient
- Vulnerable plaque I: from biomarkers to biological mechanisms
- Vulnerable plaque II: from biomarkers to biological mechanisms
- Vulnerable plaque morphology: new insights
- Pre-clinical Molecular Targeting

DAY 2 Mechanisms and Imaging
- Intravascular Imaging
- TECHNICAL CORNER: Emerging intravascular imaging in preclinical phase
- Big Data Approaches to Identify Vulnerable Patients/Plaques in the Cath Lab
- Biomechanical modeling
- Clinical I
- Clinical II
- Making the fantasy into reality? Commercial developments

DAY 3 Treatment
- Non-invasive imaging for detection of vulnerable plaque
- Therapeutic approach to Vulnerable Plaque
- Trial Corner I - Plaque imaging studies
- Trial corner II - Clinical studies assessing the efficacy of emerging therapies in preventing atherosclerotic evolution and local therapy
- Final Debate
08:00 Welcome remarks
Prof. Patrick W. Serruys and
guest director Prof. Panos Vardas

08:10 Sudden death and vulnerable patient
Chairmen: Panos Vardas and Patrick W. Serruys

08:10 What do we know about sudden death? Presentation of vulnerable patient
Vasim Farooq (UK)

08:23 Sudden cardiac death: rupture of vulnerable plaque without preceding episode and pathophysiology of acute ischemia related arrhythmia
Panos Vardas (GR)

08:36 Extrinsic factors related to sudden coronary death and myocardial infarction with emphasis on cigarette smoking
John Ambrose (USA)

08:49 Impact of intravenous DAPT on outcomes in comatose patients after acute myocardial infarction
Vasim Farooq (UK)

09:02 New approach to phenotyping patients at risk of sudden death by MRI imaging
Ranil De Silva (UK)

09:15 Discussion

09:35 Vulnerable time: ECG monitoring to shorten a symptom-to-balloon time
Amir Lerman (USA)

09:48 Cooling and bioresorption of thienopyridine after myocardial infarction
Marko Noč (SL)

10:01 Futuristic view on management/treatment of patient at risk of sudden death
Panos Vardas (GR)

10:11 Discussion

10:26 Coffee break
Vulnerable Plaque I: from biomarkers to biological mechanisms
Chairmen: Ranil De Silva and Wolfgang Koenig

10:56 Immunoglobulin as a risk predictors in coronary heart disease
Ramzi Khamis (UK)

11:09 Oxidative stress and cardiovascular events
Riyaz Patel (UK)

11:22 Association between diet and the stability of human coronary plaque as studied with radio-decay
Isabel Gonçalves (UK)

11:35 Transcriptional control of vascular stability
Anna Randi (UK)

11:48 Discussion

12:08 Lunch

Vulnerable Plaque II: from biomarkers to biological mechanisms
Chairmen: Ranil De Silva and Wolfgang Koenig

13:38 Inflammatory transcriptional networks in endothelial cells and plaque vulnerability
Rob Krams (UK)

13:51 Ageing and the biology of atherosclerosis
Martin Bennett (UK)

14:04 Vulnerable microcirculation
Javier Escaned (SP)

14:17 Uric acid: is it of any relevance to cardiologists?
Dorian Haskard (UK)

14:40 Coronary plaque angiogenesis: new insights
Michael Joner (DE)

14:53 Discussion

15:13 Break
15:43 **Vulnerable plaque morphology: new insights**  
Chairmen: Dorian Haskard and Wolfgang Koenig

Sphingolipids as novel targets of plaque inflammation  
*Isabel Gonçalves (UK)*

15:56 Vasospasm and plaque instability  
*Takashi Akasaka (JP)*

16:09 MRI plaque characterisation  
*Michelle Williams (UK)*

16:22 18F-sodium fluoride positron emission tomography  
*Michelle Williams (UK)*

16:35 Discussion

16:55 **Pre-clinical Molecular Targeting**  
Chairmen: Jim Muller and Christos Bourantas

Molecular targeting of oxidized LDL in coronary atherosclerosis  
*Ramzi Khamis (UK)*

17:08 Nanoparticles for molecular targeting  
*Rob Krams (UK)*

17:21 Collagen-4 targeting nanoparticles  
*Nazila Kamaly (DK)*

17:34 Molecular imaging of thrombosis  
*Farouc Jaffer (USA)*

17:47 Discussion

18:07 Adjourn
Intravascular Imaging
Chairmen: Jim Muller and Chris Bourantas

08:00 Introduction
Jim Muller (USA)

08:05 Introduction of OCT atlas for detecting vulnerable plaque
Yoshinobu Onuma (NL)

08:15 Strength and Weakness of IVUS in detecting vulnerable plaques: A critical appraisal
Akiko Maehara (USA)

08:25 Strength and weakness of IVUS-NIRS in detecting vulnerable plaques: a critical appraisal
David Erlinge (SE)

08:35 Discussion

TECHNICAL CORNER: Emerging intravascular imaging in preclinical phase
Chairmen: Ton van der Steen and Christos Bourantas

08:50 Ultra-high speed ECG triggered OCT
Jin Won Kim (KR)

08:57 IVUS-OCT – Terumo
Yoshinobu Onuma (NL)

09:04 NIRF-IVUS/-OCT-NIRAF OCT-NIRF
Farouc Jaffer (USA)

09:11 IVUS-TRFS
Laura Marcu (USA)

09:18 IVUS-IVPA
Ton van der Steen (NL)

09:25 Other commercially available technologies
Akiko Maehara (USA)

09:32 Discussion
Clinical value and future application of the existing intravascular imaging

10:02 Break
10:32 Big data approaches to identify vulnerable patients/plaques in the cath lab  
Chairmen: Wolfgang Koenig and Ranil de Silva

10:32 Can neural networks enable virtual histology IVOCT?  
Vik Baruah (USA)

10:45 Leveraging machine learning techniques to forecast patient prognosis after percutaneous coronary intervention  
Amir Lerman (USA)

10:58 Machine learning to identify biomechanical signatures of advanced coronary plaque formation  
Ranil de Silva (UK)

11:11 Discussion

11:26 Biomechanical modeling  
Chairmen: Jolanda Wentzel and Rob Krams

11:26 Keynote lecture: summary of shear stress meeting in Rotterdam on April 4-5, 2017  
Jolanda Wentzel (NL)

11:49 Fluid shear stress and mechanotransduction in vascular health and disease  
Paul Evans (UK)

11:59 Progression imaging and shear stress using micro-CT in preclinical models  
Kim van der Heiden (NL)

12:09 Fluid structure interaction modelling of coronary plaque – from mouse to man  
Rob Krams (UK)

12:19 Combined non-invasive assessment of endothelial shear stress and molecular imaging of inflammation for the prediction of inflamed plaque in hyperlipidaemic rabbit aortas  
Gitsios Gitsioudis (DE)

12:29 Panel discussion: Lessons learnt from preclinical modelling which parameter should be measured for predicting i) plaque progression, or ii) plaque vulnerability?

12:49 Lunch
**Clinical I**

Chairmen: Jim Muller and Ton van der Steen

- 14:19 Development and validation of OCT software for light property analysis
  - Yoshinobu Onuma (NL)
- 14:32 Shear stress and plaque development – update of preclinical and clinical studies from Rotterdam experience
  - Jolanda Wenzel (NL)
- 14:45 Coronary artery axial plaque stress and its relationship with plaque rupture and clinical presentation
  - Charles Taylor (USA)
- 14:58 Which is better or worse - high or low shear stress? Insights from analysis of culprit of PROSPECT
  - Peter Stone (USA)
- 15:11 Solid wall mechanics for prediction of future events - insights from PROSPECT
  - Martin Bennett (UK)
- 15:24 Discussion

**Break**

**Clinical II**

Chairmen: Jim Muller and Ton van der Steen

- 16:09 Is high shear stress a physiologic marker of plaque vulnerability?
  - Habib Samady (USA)
- 16:22 Does functional assessment of epicardial coronary artery stenosis severity predict future coronary events? If so, why?
  - Javier Escaned (SP)
- 16:35 Shear stress analysis in multi-modality imaging: a subanalysis of the IBIS 4 study
  - Christos Bourantas (UK)
- 16:48 Serruys fantasy: non-newtonian, pulsatile flow simulation, online ESS computation and 4D shear stress
  - Patrick Serruys (UK)
- 17:01 **Panel discussion**: What is needed to bring shear stress in clinical practice? Why is not yet shear stress used in clinical practice? What is needed from clinical point? How could we get more data to found the basis of clinical use of shear stress?
Making the fantasy into reality? Commercial developments
Chairmen: Patrick Serruys and Yoshinobu Onuma

17:21 PIE medical: angiogram derived FFR and shear stress
Jean Paul Aben (NL)

17:34 MEDIS: application of CE-marked QFR software in a clinical trial assessing the efficacy of coronary stents
Patrick Serruys (UK)

17:47 HeartFlow
Charles Taylor (USA)

18:00 Discussion

18:15 Adjourn
08:15 Non-invasive imaging for detection of vulnerable plaque
Chairmen: Christos Bourantas and Jim Muller

08:15 Ultrafast contrast enhanced ultrasound for improved cardiovascular
Meng-Xing Tang (UK)

08:28 MSCT beyond lumen assessment in clinical setting: plaque composition, syntax score and functional assessment
Carlos Collet (VE)

08:44 MSCT for detecting vulnerable plaque: biomarker and imaging correlation
Daniele Andreini (IT)

08:57 Discussion

09:12 Therapeutic approach to vulnerable plaque
Chairmen: Patrick W. Serruys and Gregg Stone

09:12 Genotype and clinical outcomes dalGenE trial
Wolfgang Koenig (DE)

09:25 ABSORB II: glagovian appraisal of vessel remodelling
Patrick Serruys (UK)

09:38 PROSPECT II, ABSORB and PREVENT
Gregg Stone (USA)

09:51 GLAGOV and FOURIER
Giovas Periklis (CH)

10:04 Panel discussion: Will imaging regain a central role in early clinical development?

10:22 ORION-1: inclisiran in patients at high cardiovascular risk with elevated LDL cholesterol
Wolfgang Koenig (DE)

10:35 Is the PCSK-9 treatment cost effective in the European health system?
Panos Vardas (GR)

10:48 Discussion

11:08 Break
11:38  **Trial corner I – plaque imaging studies**  
*Chairmen: Gregg Stone and Amir Lerman*

11:38  Lipid rich plaque trial (design/potential strength and weakness of the trial)  
*Jim Muller (USA)*

11:51  IBIS-3 antibodies  
*Ramzi Khamis (UK)*

12:04  IBIS-4  
*Lorenz Räber (CH)*

12:17  Atheroremo (FP7 Project)  
*Wolfgang Koenig (DE)*

12:30  Discussion

12:50  Lunch

14:50  **Trial corner II - Clinical studies assessing the efficacy of emerging therapies in preventing atherosclerotic evolution and local therapy**  
*Chairmen: Gregg Stone and Amir Lerman*

14:50  CIRT / CANTOS  
*Wolfgang Koenig (DE)*

15:03  HDL remodelling by CSL112 / AEGIS-1  
*Samuel Wright (USA)*

15:16  Stent-based gene delivery  
*Ilia Fishbein (USA)*

15:29  Discussion

15:49  **Final Debate**  
*Chairmen: Jim Muller and Gregg Stone*

15:49  Panel discussion: Diagnosis and therapy of vulnerable plaque for precision medicine

16:09  Adjourn
DATES & PLACE  The Meeting will be held June 18, 19 and 20, 2017, at the Aquila Altantis Hotel, in Heraklion Crete. Heraklion is the largest city and port of Crete, has a history of many centuries, a history that gave to the city a unique character and an unmatched charm. A charm to be discovered at every step of yours, from the old Venetian town to the modern European capital. Heraklion is one of the Greek cities with the longer history. Here was developed the Minoan civilization. Heraklion is a mosaic of civilizations, an alloy of Arabic, Byzantine and Venetian influences!

VENUE  AQUILA ATLANTIS HOTEL, HERAKLION  
2, Ygeias Str, Heraklion, Crete, GR – 71 202  
Tel: +30 2810 229 103 | Fax: +30 2810 226 265 | www.aquilahotels.com  
The Aquila Atlantis Hotel is located in the centre of Heraklion.

SCIENTIFIC PRESENTATIONS  The Meeting room will be equipped with Screen, Data Video Projector for Microsoft Power Point presentations, Note pads, pens and laser pointers. Please download your presentation at the meeting secretariat in advance (preferably the day before).

TRANSFER SERVICES FROM/ TO AIRPORT  Transfer services will be available to/from Heraklion airport according to your flight itinerary. Kindly note, that there will be a transfer service arranged for you upon your arrival and departure. Pick-up time for your departure transfer will be 2hrs and 30mins prior your flight departure.

SPECIAL THANKS TO

MEETING SECRETARIAT & OFFICIAL TRAVEL AGENCY

The Meeting’s Secretariat will operate during meeting hours.

ERA Ltd. 17 Asklipiou Str., 106 80, Athens, Greece  
T.: +30 210 3634944 | F.: + 30 210 3631690 | E.: info@era.gr | W.: www.era.gr