Vulnerable Patient Meeting
A Cardialysis Event

PROGRAM

18th
20th
JUNE 2017

GREECE
CRETE HERAKLION
ATLANTIS HOTEL
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
Welcome remarks
Prof. Patrick W. Serruys and guest director Prof. Panos Vardas

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 thieropyridine 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

15:43 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

16:55 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
08:00 | **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

08:50 | **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
14:19  **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

15:39  **Break**

16:09  **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
**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

**Lunch**

**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

**Final Debate**

Chairmen: Jim Muller and Gregg Stone

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

**Adjourn**
DATES & PLACE  The Meeting will be held June 18, 19 and 20, 2017, at the Aquila Atlantis 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!

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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.

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