Committees

The International CTEPH Association would like to thank the members of the Scientific Committee and the members of the Abstract Review Committee for contributing to the scientific program and abstract review process.

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Do not miss the launch of the interactive CTEPH Imaging Platform

On the occasion of the ICC 2014, the International CTEPH Association launches one of its current main projects, the interactive CTEPH Imaging Platform. The Platform provides a web-based client, which allows within a secure environment upload, and on-line sharing, viewing and reviewing of medical imagery. It will thus support CTEPH physicians, surgeons and radiologists in their review and discussion of CTEPH patient dossiers, and allows sites to get a second opinion in case of challenging cases.

The interactive CTEPH Imaging Platform is presented during coffee and lunch breaks in the exhibition booth area. Do not miss the opportunity to familiarize yourself with this tool.

Roll-out of the interactive CTEPH Imaging Platform to interested ICA member sites will start second half of 2014. For further information and application please visit the ICA website: www.cteph-association.org > Imaging Platform.

The ICA would like to thank Bayer Pharma AG for financial support of the interactive CTEPH imaging platform.
Dear Colleagues & Friends,

On behalf of the International CTEPH Association, I would like to extend a warm welcome to all participants of the International CTEPH conference (ICC) 2014. The International CTEPH Association is very pleased that the conference has attracted so much interest, making it the largest gathering of experts active in the field of CTEPH since the inaugural Cambridge conference in 2011.

Progress in surgical and medical treatment continues to improve the outcome for patients with CTEPH. In addition, novel treatment approaches such as balloon angioplasty may offer new perspectives. The conference program will present the latest and most significant developments in basic and clinical research, imaging and diagnosis, and of course medical and surgical treatment.

We trust that the conference will provide a vibrant and interactive opportunity for the presentation of the original research and exchange of state-of-the-art knowledge regarding CTEPH, to raise awareness of CTEPH and to help scientists and clinicians translate the latest findings into improvements in patient care. It is our aim that the major strength of the meeting will be the opportunity for clinicians, surgeons, intensivists, radiologists and researchers to interact and exchange ideas.

On this occasion we would like to express our thanks to the pharmaceutical companies, who have provided funding for this event, without any influence on the selection of the faculty or the content of the scientific program.

Finally, we hope that you will enjoy this conference that takes place in one of the most beautiful cities in the world.

Gérald Simonneau
On behalf of the Scientific Committee
and the International CTEPH Association
June 2-3, 2014
Institut des Cordeliers
Paris, France

June 2014, Monday 2nd

8:00 am  Opening and welcome coffee

8:50 am – 9:00 am  Plenary Session

8:50 am – 11:00 am  Plenary Session

8:50 am – 10:30 am  Introduction

Amphitheatre Farabeuf

G. Simonneau

9:00 am – 10:30 am  Plenary Session

Amphitheatre Farabeuf

Basic Mechanisms

Chairmen: M. Humbert, N. Morrell

• Disease Description and Epidemiology
  M. Huisman

• Persistent Clots
  P. Thistlethwaite

• Distal arteriopathy
  P. Dorfmuller

10:30 am – 11:00 am  Coffee break, visit of exhibition, interactive CTEPH Imaging Platform and poster viewing

11:00 am – 12:30 am  Plenary Session

Amphitheatre Farabeuf

Diagnosis

Chairmen: A. Vonk Noordegraaf, A. D’Armini

• Pathophysiology
  L. Howard

• Diagnostic algorithm and differential diagnosis
  M. Hoeper

• CTEPH Registry: risk factors study
  I. Lang

12:30 am – 2:00 pm  Lunch break

In compliance with EBAC / EACCME guidelines, all speakers / chairpersons participating in this program have disclosed potential conflicts of interest that might cause a bias in the presentations.
June 2014, Monday 2nd

2:00 pm – 3:00 pm  **Parallel Session I**
**In Depth Session I a: Surgery**  *Amphitheatre Farabeuf*
D. Jenkins, E. Fadel
1. Pre-operative treatment
2. ECMO
3. Surgical classification revisited
4. Defining post-PEA PH

**In Depth Session I b: Basic Research**  *Amphitheatre Bilsky-Pasquier*
N. Morrell, I. Lang
1. Genetics: Similarities and differences with PAH
2. PE to CTE disease
3. Arteriopathy
4. Biomarkers

3:00 pm – 3:30 pm  **Coffee break, visit of exhibition, interactive CTEPH Imaging Platform and poster viewing**

3:30 pm – 4:30 pm  **Parallel Session II**
**In Depth Session IIa: Imaging**  *Amphitheatre Bilsky-Pasquier*
D. Gopalan, K.-F. Kreitner
1. V/Q Scan and CT
2. RV and MRI
3. Intravascular imaging

**In Depth Session IIb: Controversies**  *Amphitheatre Farabeuf*
A. Ghofrani, X. Jais
1. Unmet clinical trial needs in CTEPH
2. Angioplasty
3. IVC filter
4. PE, Thrombosis and CTEPH?

5:00 pm – 7:00 pm  **Welcome reception at the Institut des Cordeliers**
### June 2014, Tuesday 3rd

**7:30 am**  
**Welcome coffee**

**8:00 am – 10:10 am**  
**Plenary Session**  
**Amphitheatre Farabeuf**  
**Management**  
Chairmen: P. Dartelvelle, N. Galiè  
- Surgery  
  - M. Madani  
- International Survey on perioperative management  
  - M. Scheffler  
- Medical Treatment  
  - J. Pepke-Zaba  
- CTEPH Registry Outcome  
  - M. Delcroix

**10:10 am – 10:40 am**  
Coffee break, visit of exhibition, interactive CTEPH Imaging Platform and poster viewing

**10:40 am – 11:50 am**  
**Plenary Session**  
**Amphitheatre Farabeuf**  
**Novel Perspectives**  
Chairmen: G. Simonneau, A. Andreassen  
- New anticoagulants  
  - P. Mismetti  
- Angioplasty  
  - H. Matsubara  
- PEA: Worldwide global perspective, ICA mission  
  - E. Mayer

**11:50 am – 1:00 pm**  
Lunch break

**1:00 pm – 2:00 pm**  
**Abstract Session**  
**Amphitheatre Farabeuf**  
Presentations, discussions  
Chairmen: A. Torbicki, M. Delcroix

**2:00 pm – 3:40 pm**  
**Plenary Session**  
**Amphitheatre Farabeuf**  
Results of “In Depth Sessions”  
Chairmen: N. Kim, E. Mayer  
4 x 15’ presentation and 10 minutes discussions  
By “In Depth Session” coordinators

**3:40 pm – 4:00 pm**  
**Plenary Session**  
**Amphitheatre Farabeuf**  
Closing Remarks  
**Prize for the best oral abstract presented**  
G. Simonneau
Faculty biographies

Arne K. ANDREASSEN
Arne K. Andreassen MD, PhD. Cardiologist and Senior Consultant at the University Hospital of Oslo, Rikshospitalet. Head of programs for heart transplantation and pulmonary hypertension.

Andrea Maria d’ARMINI
Andrea Maria D’Armini is Professor of Cardiac Surgery at the University of Pavia School of Medicine, Foundation ‘I.R.C.C.S. Policlinico San Matteo’, Pavia, Italy, where he is also Director of the Cardiac Surgery School and Chief of the Unit of Thoracic Transplantation and Pulmonary Hypertension. His surgical expertise includes pulmonary endarterectomy, coronary artery bypass grafting, heart transplants, isolated lung transplants and heart-lung transplants. He is a member of several scientific societies, including the International Society for Heart and Lung Transplantation, the Society of Thoracic Surgeons, the American College of Chest Physicians and the European Association for Cardio-Thoracic Surgery. Professor D’Armini has been the Principal Investigator in several clinical trials investigating medical treatment of pulmonary hypertension and also has research experience in the field of transplantation. He has authored or co-authored a total of 109 Pubmed-Indexed publications.

Philippe G. DARTEVELLE
Philippe G. Dartevelle is Professor of thoracic and cardiovascular surgery at Paris-sud University and has created in 1988 the Department of thoracic & vascular surgery and heart-lung transplantation of Marie Lannelongue Hospital and developed it until 2013. He is now the Chief Executive Officer and medical and scientific Director of Marie Lannelongue Hospital. Major interests are extended surgery in chest cancer particularly SVC replacement, surgery of thoracic inlet tumours for which he has described the transclavicular approach, carinal surgery, pulmonary endarterectomy for chronic thromboembolic pulmonary diseases, lung and heart-lung transplantation for pulmonary vascular diseases, airway surgery and trachea replacement by autologous composite skin cartilage free grafts.

Marion DELCROIX
Marion Delcroix was born in Belgium and studied medicine at the Free University of Brusel where she graduated in 1987. She was Research Assistant and Senior Research Assistant of the Belgian National Fund for Scientific Research (FNRS) for 5 years. She then specialized in Pneumology. She is presently working in the Department of Pneumology of the University Hospitals of Leuven and is Professor of Medicine and of Respiratory Physiology at the Catholic Universities of Leuven and Kortrijk. As Director of the Centre for Pulmonary Vascular Diseases in Leuven, she has been involved in the routine care of over 1000 patients with pulmonary hypertension and has participated to the main pivotal trials for the treatment of pulmonary arterial hypertension. She was invited expert at the Third, Fourth and Fifth World Symposia on Pulmonary Arterial Hypertension, is vice-president of the Belgian Task Force for Pulmonary Hypertension, and Founding Member of the International CTEPH Association. She has over 100 publications with research interest focusing on pulmonary circulation and gas exchange, cardiac imaging, and on the role of inflammation in the pathogenesis of PAH and CTEPH.
Peter DORFMÜLLER
Peter Dorfmüller MD, PhD works as a pathologist at Marie Lannelongue Hospital, Paris-South University, in Le Plessis Robinson, France.

As a specialist in pulmonary vascular pathology, he works as a consultant for the French National Reference Centre for Pulmonary Hypertension, which is affiliated to the pulmonology department in Bicêtre Hospital, Le Kremlin Bicêtre (Profs. Simonneau, Humbert and Sitbon). He is attached to the research unit 999 of the Institut de la Sante et de la Recherche Medicale (INSERM) which focuses on pulmonary hypertension (pathophysiology and innovative therapies).

He is the author of several original articles, reviews and book chapters on pulmonary hypertension, with a special scientific interest in PH and inflammation, pulmonary veno-occlusive disease and chronic thromboembolic pulmonary hypertension.

Elie FADEL
Elie Fadel, MD, PhD. Department of Thoracic, Vascular Surgery and Heart-Lung Transplantation. Marie Lannelongue Hospital and Paris-Sud University, France.

Dr. Elie FADEL is currently the head of the Department of Thoracic and Vascular Surgery and Heart-Lung Transplantation at Marie Lannelongue Hospital and Professor of Thoracic and Cardio-Vascular Surgery at the Paris-Sud University. He also leads the Laboratory Of Surgical Research, INSERM U999 at Marie Lannelongue Hospital mainly involved in basic science research on pulmonary vascular disease and right heart failure.

Dr. Fadel’s surgical expertise focuses on surgery for locally extended (T4) lung cancer, mediastinal tumors, tumors involving vessels or spine, aortic surgery and surgery for pulmonary hypertension such as lung and heart-lung transplantation as well as pulmonary endarterectomy for chronic thromboembolic pulmonary hypertension.

Dr. Fadel is member of professional societies such as The French Society of Cardio-Thoracic Surgery, The International Society of Heart-Lung Transplantation, The European Association for Cardio Thoracic Surgery and The American Association for Thoracic Surgery.

Nazzareno GALIÈ
Nazzareno Galiè, MD, heads the Pulmonary Hypertension Centre at the Institute of Cardiology and is Associate Professor of Cardiology at the Medical Faculty of the University of Bologna, Italy. He also teaches at the Postgraduate Medical Schools of Cardiology, Pulmonary Diseases, and Rheumatology at the University of Bologna. He is Director of the International Master Degree in Pulmonary Vascular Diseases of the University of Bologna. He has authored 107 scientific publications indexed in Pub - Med on heart failure, heart transplantation and pulmonary hypertension (Impact Factor = 792). Professor Galiè is a Scholar of the Italian Society of Cardiology, Fellow of the European Society of Cardiology (FESC), and Honorary Fellow of the Royal College of Physicians (FRCP), UK.

He is past-Chairman of the working group on pulmonary circulation of the European Society of Cardiology and of the joint task force of the European Society of Cardiology and the European Respiratory Society for the guidelines on pulmonary hypertension.
Faculty biographies

Hossein A. GHOFRANI
Hossein A. Ghofrani, MD, is Professor for Internal Medicine at Justus-Liebig University Giessen, Germany. He currently is Head of the Pulmonary Hypertension Division, Department of Internal Medicine, at the University Hospital in Giessen, and Director of Pulmology at Kerckhoff Heart and Lung Center in Bad Nauheim, Germany. He leads a translational research group on development of new therapeutics for Cardiopulmonary Vascular disease. He is also member of the steering committee of the Excellence Cluster Cardio-Pulmonary System (www.eccps.de). He is founding member of the Pulmonary Vascular Research Institute (www.pvri.info). He has participated in the development of several therapeutics for chronic lung diseases and pulmonary hypertension, including prostanoids, phosphodiesterase inhibitors, endothelin receptor antagonists, tyrosine kinase inhibitors, and stimulators of the soluble guanylate cyclase. He has received four awards for investigations in pulmonary vascular science and is a reviewer for several medical scientific journals.

Deepa GOPALAN
Dr Deepa Gopalan, MBBS, MSc, MRCP, FRCR. Deepa Gopalan is a Consultant Cardiovascular Radiologist at Addenbrookes and Papworth Hospitals, Cambridge. She trained as a Specialist Registrar in Radiology with the East Anglian Specialist Registrar Training Programme at Addenbrooke’s Hospital, Cambridge and has done fellowships in Cardiothoracic Radiology at Papworth Hospital, Cambridge and Erasmus MC Hospital, Rotterdam, Nuclear Medicine at UCH/ Middlesex Hospitals, London and vascular intervention at The Sheffield Vascular Unit.

She is the Lead Radiologist for Pulmonary Hypertension Imaging at Papworth Hospital which happens to be the National Endarterectomy centre for the UK. She has published widely on her specialist subjects (Pulmonary Hypertension and Non-invasive Cardiac Imaging) and frequently participates as a speaker at cardiovascular conferences in the National and International forum.

Marius M. HOEPER
Hannover Medical School, Hannover, Germany. Marius M. Hoeper, MD, was educated at Hannover Medical School, where he specialised in respiratory medicine and intensive care medicine. In 1992, he received a two-year grant from Germany’s National Research Foundation for a post-doc training at the University of Colorado, Denver, USA. After that training had been completed, Professor Hoeper moved back to Hannover Medical School, where he now holds the position of Senior Physician in the Department of Respiratory Medicine. He is in charge of the pulmonary hypertension programme and attending physician of the medical intensive care unit. His main scientific interest lies in the field of pulmonary hypertension, where he has published more than 170 papers. In addition, Professor Hoeper serves as a regular reviewer for major medical journals in the field and is a member of the editorial board of the American Journal of Respiratory and Critical Care Medicine, as well as an associate editor with the European Respiratory Journal and the Journal of Heart and Lung Transplantation.

Prof. Hoeper has been a task force member at the 3rd World Symposium on Pulmonary Hypertension in Venice (2003), a task force chair at the 4th World Symposium on Pulmonary Hypertension in Dana Point (2008) and on the 5th World Symposium on Pulmonary Hypertension in Nice (2013). In addition, he has been an author and section editor of the 2009 European guidelines for Pulmonary Hypertension and is currently serving as section editor of the 2015 European pulmonary hypertension guidelines.
Luke HOWARD
Luke Howard, DPhil, FRCP, has been a Consultant Respiratory Physician at the National Pulmonary Hypertension Service at Hammersmith Hospital, Imperial College Healthcare NHS Trust, London, since 2006. The service actively monitors over 900 patients with pulmonary hypertension. Dr. Howard leads the Cardiopulmonary Exercise Laboratory and is also an Honorary Clinical Senior Lecturer at the National Heart and Lung Institute, Imperial College, London. He has an active research programme in exercise physiology and haemodynamics, as well as a particular interest in iron physiology. He undertook his DPhil at the University of Oxford, examining the mechanisms of carotid body acclimatisation to altitude in man.

Menno Volkert HUISMAN
MD PhD - Professor of Medicine - Chair Section of Vascular Medicine - Department of Thrombosis and Hemostasis - Leiden University Medical Center, The Netherlands - Research activities: Diagnosis and treatment of thromboembolic disorders

Marc HUMBERT
Marc Humbert, MD, PhD, is Professor of Medicine at the South Paris University, Le Kremlin-Bicêtre, France. In addition to his academic responsibilities, Marc Humbert is consultant and specialist at the National Referral Centre for Pulmonary Hypertension, Department of Respiratory and Intensive Care Medicine, Hôpital Bicêtre, Assistance-Publique Hôpitaux de Paris, France. Marc Humbert is Director of the INSERM UMR S 999 «Pulmonary Hypertension: Pathophysiology and Innovative Therapies» and Director of the “Thorax Innovation” University Hospital Department. He is Vice Dean of the South Paris University School of Medicine, President of the Research Committee and Vice President of the Board of Directors of the Assistance-Publique Hôpitaux de Paris. He is currently the Editor in Chief of the European Respiratory Journal. He has published widely in the fields of pulmonary hypertension, asthma and pulmonary inflammation and has been awarded with the ERS Cournand Lecture in 2006 with a lecture on «The Burden of Pulmonary Hypertension». Marc Humbert has received the Descartes-Huygens Prize from the Royal Netherlands Academy of Arts and Sciences.

Xavier JAÏS
Xavier Jaïs, MD, is Consultant Respiratory Physician at the National Reference Centre for Pulmonary Hypertension, Department of Respiratory and Intensive Care Medicine, Hospital Bicêtre, Le Kremlin-Bicêtre, France. His research and clinical interests are focused on risk factors of pulmonary hypertension, and diagnosis and treatment of chronic thromboembolic pulmonary hypertension.
Faculty biographies

David JENKINS
David Jenkins is a Consultant Cardiothoracic Surgeon at Papworth Hospital, Cambridge, UK. He graduated from medical school at the University of London in 1989, with a first class intercalated BSc in Physiology, and trained in Surgery in London. Following a 2-year formal research period investigating ischaemic preconditioning and myocardial protection at the Hatter Institute at University College London, Mr Jenkins was awarded Master of Surgery from London University in 1997. He undertook his cardiothoracic surgical training in West London at the Harefield, Hammersmith and St George’s hospitals, and was appointed as Consultant at Papworth Hospital in 2001. Mr Jenkins has experience in all aspects of adult cardiac surgery. Specialist experience includes surgical treatment of pulmonary hypertension, intra-thoracic transplantation, and mechanical circulatory support including extracorporeal membrane oxygenation. In 2004, he became lead surgeon for the UK national pulmonary endarterectomy (PEA) program. Dr. Jenkins is an executive board member of the International CTEPH Association. He is also an elected member of the executive of the Society for Cardiothoracic Surgery in Great Britain & Ireland and the UK commissioning group for adult cardiac surgery. As Royal College of Surgeon’s tutor at Papworth, he has a major interest in surgical training of junior doctors. His research interests are related to myocardial protection, pulmonary hypertension and PEA surgery.

Nick H. KIM
Nick H. Kim, MD, is Associate Clinical Professor of Medicine in the Division of Pulmonary and Critical Care Medicine at the University of California, San Diego (UCSD). He is Director of Pulmonary Vascular Medicine and of PCCM Fellowship Training Program at UCSD.

Dr Kim graduated from Harvard University, Cambridge, Massachusetts, and received his medical degree in 1994 from the University of Chicago Pritzker School of Medicine, Chicago, Illinois. He completed his Internal Medicine internship and residency at the University of Chicago and a year of anesthesiology training at University of California, San Francisco. After completing fellowship training in Pulmonary and Critical Care Medicine at UCSD in 2001, he joined the faculty specializing in pulmonary vascular medicine.

Dr Kim’s clinical and research interests are in pulmonary hypertension and chronic thromboembolic disease. He is an investigator for multiple pulmonary hypertension clinical trials, has published in numerous peer-reviewed journals, and has lectured internationally on the subject of pulmonary hypertension.

Karl-Friedrich KREITNER
Born on November 20, 1959, married with Dr. Vera Stich-Kreitner, 2 children, 25 and 21 years old.


Served in different functions for journals and the European Radiology organizations: from 2001-2007 editorial assistant of the Editor-in-Chief of the journal European Radiology, since 2008 member of its editorial subcommittee “heart”, member of the educational committee of ESCR (European Society of Cardiac radiology), 2010-2012 member of the editorial board of Insights into Imaging, since 2010 consultant for the German Research society (DFG), since 2011 reviewer for EPOS (posterjury of the European Society of Radiology), 2011-2014 member of the jury committee European Society of Thoracic Imaging ESTI, since 2012 member of the EBR (European Board of Radiology) Case Collection Committee, since 2013 co-editor of the journal Radiologieup2date.

Irene Marthe LANG
Professor of Vascular Biology, Medical University of Vienna. Professor Irene Marthe Lang is a senior staff member at the Department of Cardiology, and deputy Chairwoman of the Department. Irene M. Lang, carried out her medical education and residency at the University of Vienna, before taking on a 5-year post-doctoral research fellowship at the University of California, which included a joint appointment with the Scripps Research Institute. Since 2004, she has been Professor of Vascular Biology at the Medical University of Vienna. Professor Lang is leading a clinical and experimental group in vascular medicine, with one focus on pulmonary vascular biology and right ventricular function. Professor Lang has been leading numerous studies in the cardiovascular field, including a trial on myocardial regeneration employing intramyocardial cell injections. Dr Lang is an active interventional and structural cardiologist with a case load of >15,000, and an active researcher with >800 impact points and an h-Factor of 30. She was nominated by the World Medical Association as a “Caring Physician of the World” in 2006, Teacher of the Year at the Medical University of Vienna in 2013, and is past president of the Austrian Society of Cardiology. Dr Lang is part of the International CTEPH Association (ICA), with the objectives to increase awareness for CTEPH, foster worldwide collaboration among CTEPH centers, serve as platform for surgical centers, facilitate training of emerging CTEPH centers, and advance research and education in CTEPH. Dr Lang is directing an outpatient unit for pulmonary vascular disease at the Medical University of Vienna.

Michael M. MADANI
Michael M. Madani, MD, FACS. University of California San Diego (UCSD) Health System. Michael Madani, MD is a Professor of Surgery and Chief of Cardiovascular and Thoracic Surgery. Dr. Madani is also the Director of UCSD Sulpizio Cardiovascular Center- Surgery and Surgical Director of the UCSD Pulmonary Endarterectomy program.

Dr. Madani received his medical degree form University of Toronto and moved to San Diego in1999, after completing his surgical residency in Berkshire Medical Center, University Of Massachusetts Medical School. Dr. Madani’s clinical interests include pulmonary thromboendarterectomy (PTE), mitral valve repair, minimally invasive and robotic cardiac surgery, as well as surgical treatment for heart failure, and heart and lung transplantation.

He is also a member of the executive board overseeing the International CTEPH Association, helping to set standards of care at an international level. He is currently a member of various national and international committees and is actively involved in multiple areas of clinical research. He also serves as secretary general for the World Society of Cardio-Thoracic Surgeons. Dr. Madani has over 75 publications and has published many distinguished textbooks in cardiothoracic surgery. Well know in the international arena for his expertise in PTE, Dr. Madani is a gifted speaker and has given more than 120 presentations on national and international arena during his distinguished career.
Faculty biographies

Hiromi MATSUBARA
Hiromi Matsubara had completed his PhD from Okayama University Medical School in 2000 and had promoted to the Associate Professor of Cardiovascular Medicine at Okayama University Graduate School of Medicine and Dentistry. He then became the Director of Division of Cardiology at National Hospital Organization Okayama Medical Center and he also serves as the Director of Department of Clinical Science since 2010.

His investigative interests have focused on clinical and physiologic aspects of pulmonary hypertension. He has made National Hospital Organization Okayama Medical Center as one of the largest pulmonary hypertension center in Japan.

Eckhard MAYER
Kerckhoff Heart and Lung Center, Bad Nauheim, Germany. Eckhard Mayer, MD, is Professor of Thoracic Surgery at the Johannes Gutenberg University of Mainz and Director of the Department of Thoracic Surgery at Kerckhoff Heart and Lung Center, Bad Nauheim, Germany. From 1989, he was involved in the first successful European Pulmonary Endarterectomy Program at Mainz University hospital and has been the Director of this program at Mainz and Giessen universities and the Kerckhoff Heart and Lung Center for 20 years. He has published widely in the field of chronic thromboembolic pulmonary hypertension (PH) and has been actively involved in the Venice 2003, Dana Point 2008 and Nice 2013 PH World Symposia as well as in several European and national PH guideline conferences.

Patrick MISMETTI
Jean Monnet University, Saint-Étienne, France. Patrick Mismetti is Vice-Dean of the Faculty of Medicine, Jean Monnet University, Saint-Étienne, France. He has an interest in pharmacology as it relates to the prophylaxis of venous thromboembolism, with the aim of optimising diagnostic and therapeutic management of patients.

Professor Mismetti heads the Research Group on Thrombosis (EA3065) at Saint-Étienne, which focuses on both venous (blood clots and pulmonary embolism) and arterial (myocardial infarction, peripheral arterial disease and stroke) thrombosis. The group’s work is oriented towards therapeutic research, but includes pathophysiology (that is, disease mechanism and mode of action of drugs), and diagnostic and epidemiological factors. He is an author on more than 100 peer-reviewed research papers in the international medical literature.
Nick MORRELL
Nick Morrell qualified in Medicine (MB BS) from Charing Cross and Westminster Medical School (now Imperial College) in 1987. He undertook his research MD at Charing Cross and then spent 2 years in Denver, Colorado, as a British heart Foundation Fellow before returning as a Lecturer to complete training in General and Respiratory Medicine at the Royal Postgraduate Medical School, Hammersmith Hospital. He was appointed Senior Lecturer and Honorary Consultant position at Hammersmith Hospital, Imperial College in 1998 and was awarded an MRC Clinician Scientist Fellowship. He moved to Cambridge in 2000 as University Lecturer and Honorary Consultant at Addenbrooke’s and Papworth Hospitals, and was appointed Professor of Cardiopulmonary Medicine in 2007. In 2009 he was awarded a British Heart Foundation Professorship and was elected to the Fellowship of the Academy of Medical Sciences in 2011. He has chaired the programme committees of the British and American Thoracic Societies (PC Assembly). He is a member of the MRC Clinical Fellowships Committee. He is Director of the BHF Cambridge Centre for Cardiovascular Research Excellence and leads the Cardiovascular Theme of the NIHR Cambridge Biomedical Research Centre. He is the Research Director of the Pulmonary Vascular Diseases Unit at Papworth Hospital. His research focuses on understanding genetic causes of cardiovascular disease, particularly pulmonary arterial hypertension, and developing new treatments for these conditions.

Joanna PEPKE-ZABA
Papworth Hospital, Cambridge, UK. Joanna Pepke-Zaba, PhD, FRCP, graduated from Warsaw University School of Medicine in Poland before undertaking a fellowship in respiratory physiology at Papworth and Addenbrooke’s Hospitals, University of Cambridge, which resulted in a PhD. She is the lead physician and Director of the National Pulmonary Vascular Diseases Unit at Papworth Hospital. She is member of Pulmonary Hypertension Clinical Reference Group and previously chaired the National Pulmonary Hypertension (PH) Centres Committee for the UK and Ireland. Her main research has concentrated on the translational programmes in the field of pulmonary hypertension with specific interest into Chronic Thromboembolic Pulmonary Hypertension and Idiopathic Pulmonary Arterial Hypertension.
Has published over 90 papers in the field of PH and serves on various educational and scientific committees. She is committed to training in respiratory medicine and was reappointed as Recognised Teacher by the Clinical School of the University of Cambridge. She has been Honorary Senior Visiting Fellow of the University of Cambridge School of Clinical Medicine since 2011

Matthias SCHEFFLER
Matthias Scheffler graduated in 1995 from University of Heidelberg (Department of Clinical Medicine Mannheim). He was trained in Anesthesia, Intensive Care and Emergency Medicine at the University Hospital Giessen / Germany and subspecialized in Cardiothoracic Anesthesia. From 2007-2009 he attended a Pulmonary Endarterectomy Program at Giessen University (Dr. Eckhard Mayer).
In 2010 he was appointed Staff Anesthesiologist and Assistant Professor with the Department of Anesthesia, Cardiac Anesthesia Program, at the Queen Elizabeth II Health Sciences Centre / Dalhousie University in Halifax / Nova Scotia, Canada.
Faculty biographies

Gérald SIMONNEAU
Gérald Simonneau, MD, is Head of the Department of Pneumology and Intensive Care Medicine at Hôpital Kremlin Bicêtre, Paris-Sud University, France. In addition, Professor Simonneau is Director of the French National Reference Centre for Pulmonary Hypertension since 2004 and Director of Research Unit “New therapeutic approaches for Pulmonary Hypertension” INSERM U999, since 2010. He has published widely in the fields of pulmonary hypertension, pulmonary vascular diseases and pneumology in peer-reviewed Journals including New England Journal of Medicine, Lancet, Annals of Internal Medicine, and Circulation. He has been President of the working group on pulmonary circulation, of the European Society of Cardiology and has received the PAH research award of the European Respiratory Society in 2011.

Patricia A. THISTLETHWAITE
Patricia A. Thistlethwaite M.D.-Ph.D. is a Professor in the Division of Cardiothoracic Surgery at the University of California, San Diego. She is the first woman Program Director in Cardiothoracic Surgery in the United States. Dr. Thistlethwaite is a magna cum laude graduate of the Harvard Medical School. She completed her general surgery residency training at Massachusetts General Hospital and cardiothoracic surgery residency training at the University of Pittsburgh. Dr. Thistlethwaite joined the faculty of the Division of Cardiothoracic Surgery at the University of California, San Diego in 1997. Her clinical interests include thoracic surgery, mediastinal surgery, and heart and lung transplantation. In addition to cardiothoracic surgery, Dr. Thistlethwaite runs an active NIH-funded molecular biology laboratory on the UCSD campus, which focuses on innovative approaches to pulmonary vascular disease and cardiac angiogenesis. Her national recognition has led to elected membership in the American Association of Thoracic Surgeons, the Society of Thoracic Surgeons, the Western Thoracic Surgical Association, the International Society of Heart and Lung Transplantation, and numerous other societies and committees. She is an Editor of the Annals of Thoracic Surgery and Pulmonary Circulation, Secretary of the Western Thoracic Surgical Association, Leadership Councilor of the Thoracic Surgeon Directors Association, and the author of over 120 peer-reviewed papers and book chapters.

Adam TORBICKI
Adam Torbicki MD, PhD, FESC. Head, Department of Pulmonary Circulation and Thromboembolic Diseases. Center of Postgraduate Medical Education, ECZ - Otwock. Ul Borowa 14/18, 05-400 Otwock, Poland
Graduated from Warsaw University School of Medicine in 1978. Fellowships in University of Freiburg (Germany) and Pavia (Italy). Head of the Department of Chest Medicine in Institute of Tuberculosis and Lung Diseases in Warsaw Poland 1998 – 2011 a reference centre for pulmonary hypertension and embolism. Since 2012 Head of Department of Pulmonary Circulation and Thromboembolic Diseases of the Centre of Postgraduate Medical Education based at Cardioangiology Department of the European Health Centre-Otwock. Professor of Medicine, specialist in internal medicine, cardiology and angiology. Since 1982 involved in research related to pulmonary circulation with special interest in non-invasive evaluation, prognostic staging and follow-up of pulmonary hypertension and right ventricular function. Contributed as principal investigator and/or member of steering committee (SC) to many trials assessing pharmacologic treatments in pulmonary hypertension. Author of > 170 scientific publications (HI = 40). Co-author of ESC Guidelines on PH published in 2006 and 2009. Chairman of the Task Forces which published European Society of Cardiology Guidelines on Diagnosis and Treatment of Pulmonary Embolism in 2000 and 2008. Chairman of the Organizing Committee of “Pulmonary Circulation 2006 European Forum” in Warsaw. Chairman of the Working Group on Pulmonary Circulation and Right Ventricular Function of the European Society of Cardiology (2004 - 6). Past-President of Polish Cardiac Society (2004 – 2007), and Vice-President of the of European Society of Cardiology(2010-2012).
Anton VONK NOORDEGRAAF

Anton Vonk Noordegraaf, MD, PhD, is Professor in the division of Pulmonary Sciences at the Vrije Universiteit Amsterdam, a tertiary referral centre for pulmonary arterial hypertension (PAH) in The Netherlands. Professor Vonk Noordegraaf obtained his medical degree with honours from the Vrije Universiteit Medical Centre, Amsterdam, in 1995. Between 1995 and 1997 he studied for his PhD, exploring the function of the right ventricle in chronic obstructive pulmonary disease-related PAH. He then spent a year as a postdoctoral fellow at The University of Pennsylvania, PA, USA, where he was dedicated to the research of the pulmonary circulation in acute respiratory distress syndrome (ARDS). After completing a 6-year fellowship in pulmonary medicine at Vrije Universiteit, he joined the division of Pulmonary Sciences at the University in 2003, where he remains to the present day. His research is focused on the mechanisms and treatment of right ventricular failure, pulmonary haemodynamics, and clinical studies in the field of pulmonary hypertension.
OUTCOME AFTER PULMONARY ENDARTERECTOMY (PEA): LONG TERM FOLLOW-UP OF THE UK NATIONAL COHORT

J Cannon1, L Su2, M Toshner1, D Taboada1, K Sheares1, C Ng1, J Dunning1, S Tsui1, D Jenkins1 and J Pepke-Zaba1 on behalf of the UK PH centres.
1- Papworth Hospital NHS foundation Trust, Cambridge, UK
2- MRC Institute of Public Health, Cambridge, UK

Objective
Chronic thromboembolic pulmonary hypertension (CTEPH) is a life threatening condition that historically has a poor outcome with supportive medical treatment. Pulmonary endarterectomy (PEA) is the treatment of choice and offers the only chance of cure. Data on the long-term survival and factors associated with poorer survival after PEA are limited. We analysed the long-term data for the UK national PEA cohort.

Method
All patients who underwent a PEA for CTEPH at Papworth hospital between January 1997 and December 2012 were included. Pre- and post-operative data on haemodynamics, exercise capacity, functional class and targeted PAH therapies taken were obtained from the databases of the UK PH centres. Data are presented as mean ± standard deviation. The NHS spine summary care record tracking system was used for survival data and causes of death from our database or from the England and Scotland General Register Offices. The causes of death were further classified into 5 groups:
1. Post operative,
2. Right ventricular failure away from operative period,
3. Related to anticoagulation,
4. Unrelated to CTEPH e.g. malignancy,
5. Unknown.

Results
880 patients underwent PEA over the 15-year period. The mean age was 57 years (range 15–84) and 53% were male. 89% were in WHO functional class 3 or 4 prior to surgery with an average mPAP of 47 ± 11 mmHg, PVR of 830 ± 382 dynes/sec/cm5 and six-minute walk distance (6MWD) of 260 ± 126 m. 64% of patients were taking at least 1 targeted therapy as a “bridge to surgery”. Post surgery 84% of patients were in WHO functional class 1 or 2 and there was a reduction in the average mPAP to 27 ± 9 mmHg and PVR to 286 ± 198 dynes/sec/cm5 by 12 months (p<0.001 vs pre-op values). The 6MWD increased to 384 ± 119 m (p<0.001 vs pre-op). 23% of patients used targeted therapy during a mean follow-up of 4.3 years post PEA. The 10 year all cause mortality post PEA was 28% (n=173) with 54% in the post-operative period, 21% unrelated to CTEPH, 16% due to right heart failure, 7% related to anticoagulation and 2% unknown. Work is ongoing to determine the factors associated with worse outcome post PEA and in particular those patients that should be closely monitored and/or started on targeted therapy post PEA.

Conclusion
This is the largest reported PEA series with a 10-year follow-up and cause of death identified. There was prolonged haemodynamic improvement but targeted therapy was used in 23% of patients with a mean follow-up of 4.3 years. The 10-year survival was 72%, which is comparable to published data (75% 10-year survival, Madani Ann Thor Surg 2012) but with an older mean age in our series. The mortality was predominantly in the peri-operative period and later due to causes unrelated to CTEPH.
EFFECTS OF TARGETED THERAPY ON THROMBUS MORPHOLOGY AND THE CELLULAR AND TISSUE COMPOSITION OF PULMONARY ENDARTERECTOMY SPECIMENS – A RETROSPECTIVE HISTOPATHOLOGICAL STUDY

Moseley E, Southwood M, Toshner M, Hadinnapola C, Jenkins D, Pepke-Zaba J, Goddard M, Sheares K
1: Department of Pathology, 2: Pulmonary Vascular Diseases Unit, 3: Cardiothoracic Surgery, Papworth Hospital, Cambridge, UK

Objectives
Despite recent advances in the treatment and management of patients with chronic thromboembolic pulmonary hypertension (CTEPH), relatively little is understood regarding the factors modulating thrombus integrity before or during the surgical process. Anecdotal reports suggest that targeted therapies for pulmonary arterial hypertension prior to surgery may influence the friable nature and structural integrity of the pulmonary endarterectomy (PEA) material and, as many agents act by altering smooth muscle tone and function, have a plausible role in modulating the cells and constituents of the thrombus.

Methods
The distal tail portions from PEA specimens from treatment naive (n=5) and from patients treated with the endothelin receptor antagonist Bosentan (n=8) or the phosphodiesterase 5 inhibitor Sildenafil (n=7) were examined by 2 blinded observers. Morphology of PEA samples was examined using Haematoxylin and Eosin (H&E) staining and by Elastic van Gieson (EVG) to assess types of connective tissues present with the specimen. A semi quantitative score (0=absent, 1=low, 2=medium, 3=high) was used to measure relative contribution of collagen, elastic fibre content, myxoid-type changes and density of smooth muscle cells (SMCs) through the specimen.

Results
PEA specimens were histologically heterogeneous containing areas of loose fibromyxoid tissue as demonstrated by H&E and EVG staining. Occasional endothelial lined channels sometimes surrounded by contractile fusiform SMCs were identified and frequent SMCs of a morphologically secretory phenotype dispersed throughout the specimen. Interestingly, a similar contribution of connective tissue components (collagen, elastin, myxoid) was observed in all samples regardless of the type, if any, of targeted therapy prior to PEA surgery. A significant increase in the presence of SMCs was observed in patients treated with Bosentan (mean score 1.37, p=0.0326 vs. control) or Sildenafil (mean score 1.57, p=0.0187 vs. control) before PEA surgery compared to treatment naive patients (mean score 0.83).

Conclusion
Despite little evidence for changes in connective tissue in PEA samples, targeted therapies for PAH were found to influence SMC expression in distal tail regions. The potential effects of targeted therapy upon thrombus organisation and revascularisation are less clear and further work is warranted to substantiate these interesting observations.
RIGHT VENTRICULAR REVERSE REMODELING AFTER BALLOON PULMONARY ANGIoplasty IN PATIENTS WITH INOPERABLE CHRONIC THROMBObEMBOLIC PULMONARY HYPERTENSION

National Cerebral and Cardiovascular Center, Osaka, Japan

Background
Balloon pulmonary angioplasty (BPA) has been reported to restore hemodynamics and functional capacity, with an acceptable risk, in patients with chronic thromboembolic pulmonary hypertension (CTEPH), who are not candidates for pulmonary endarterectomy. However, right ventricular (RV) function, an important predictor in CTEPH, remains to be examined. We aimed to examine the impact of BPA on RV remodeling and dysfunction relative to hemodynamic improvements in patients with inoperable CTEPH.

Methods
We studied 20 consecutive patients with inoperable CTEPH who underwent a series of BPA (3.2±0.9 procedures) with cardiovascular magnetic resonance (CMR) before and at a mean of 4.0±0.8 months after BPA.

Results
BPA led to significant amelioration of the mean pulmonary arterial pressure (39±8 to 27±9mmHg), cardiac index (CI), and pulmonary vascular resistance (PVR, 889±365 to 490±201dyne sec/cm$^5$) (all P<0.05), without death or major complications including severe reperfusion pulmonary edema. Moreover, BPA significantly improved right-sided heart failure symptoms and signs, and exercise capacity (all P<0.001). CMR revealed a marked improvement in RV end-diastolic volume index (RVEDVI, 130±52 to 92±24 ml/m²) and end-systolic volume index (RVESVI), with concomitant improvements in RV ejection fraction, RV mass, and interventricular septal bowing after BPA (all P<0.001). Changes in RV volumes (RVEDVI and RVESVI) strongly correlated with those in CI and PVR (R=0.62-0.74, all P<0.01).

Conclusions
BPA induced RV reverse remodeling and improved systolic dysfunction safely by ameliorating hemodynamics in patients with inoperable CTEPH.
SUB-SEGMENTAL PULMONARY ENDARTERECTOMY: TIME FOR A NEW SURGICAL CLASSIFICATION

M. Madani¹, S Jamieson¹, V Pretorius¹, N Kim², K Kerr², P Fedullo², D Poch², N Sakakibara¹, J Higgins¹, W Auger²

Division of Cardiovascular & Thoracic Surgery (1) and Division of Pulmonary Medicine (2)
University of California San Diego Health System. La Jolla, California. USA 92037

Background
Recent refinements in the technique of pulmonary endarterectomy (PEA) allow more meticulous distal segmental and subsegmental resection of organized thrombus. The relevance of sub-segmental occlusion in the spectrum of chronic thromboembolic pulmonary hypertension (CTEPH) has not been adequately characterized, with the concern that this may be the result of in-situ thrombosis secondary to small vessel disease and not post-embolic in nature.

Methods
Since January 2013, a new surgical classification has been internally used at the University of California San Diego (UCSD) to identify patients having undergone a subsegmental endarterectomy. A review of 201 cases at UCSD from January 2013 to March 2014 was completed. The surgical specimens removed were classified using traditional surgical classification (Jamieson Types I-IV), as well as the new UCSD surgical level classification (UCSD Level I-IV). All specimens were assessed by an experienced surgeon according to this new surgical classification:

Level 0 – No evidence of CTE (chronic thromboembolic disease)
Level I – CTE at the level of main pulmonary arteries
  - Level 1C: Complete occlusion and non-perfusion of one lung
Level II – CTE at the level of lobar or intermediate arteries
Level III – CTE at the segmental level
Level IV – CTE at the subsegmental level

Results
58 patients (28.8%) had a change in their CTE classification on at least one side. Of those, 45% were related to the presence of “fresh” thrombus (stasis clot), this being “Type 1” disease regardless of the level of resection according to the old classification. 12 (58.3% female) out of 46 patients (26.1%) previously categorized as bilateral Type 3 disease were subsegmental resections and re-classified as Level IV disease. Pre-operative hemodynamic assessment performed in this group revealed: mPAP of 42.5±10.2 mmHg, CO 4.02±0.88 l/m, and PVR of 722±335 dyn·s/cm 5 (33% with PVR > 1000). Post-op hemodynamics at the end of ICU stay revealed: mPAP of 29.4±9.8 mmHg, CO 4.74±1.39 l/m, and PVR of 409±215 dyn·s/cm 5 (33% with PVR >500). Preoperatively, 67% of patients were receiving some form of pulmonary hypertension specific medical therapy. The hemodynamic benefit achieved with endarterectomy allowed discontinuation of medical therapy in half of these patients. There was no in-hospital mortality in this group.

Conclusions
This small series demonstrates that PEA of subsegmental CTE disease by an expert surgeon can result in significant improvement in pulmonary hemodynamics. The previously utilized surgical classification did not adequately describe the level of thrombus resection in this challenging group of patients (Fig. 1) and it is conceivable that some may have been previously labeled as having “no disease” (Type 4). UCSD’s new surgical classification provides greater clarity as to the anatomical location of CTE disease.

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Abstracts selected for oral presentation

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SUB-SEGMENTAL PULMONARY ENDARTECOTOMY: TIME FOR A NEW SURGICAL CLASSIFICATION

Figure 1 – Right and left pulmonary angiograms and the corresponding specimen removed form a 66 yo female suffering from severe pulmonary hypertension. The patient had Level IV disease, signifying a subsegmental resection.
OUTCOME OF PULMONARY ENDARTERECTOMY IN SYMPTOMATIC CHRONIC THROMBOEMBOLIC DISEASE

Dolores Taboada1, Joanna Pepke-Zaba1, David P Jenkins2, Marius Berman2, John E Cannon1, Mark Toshner1, John J Dunning2, Choo Ng2, Steven S Tsui2, Karen K Sheares1.

1- Pulmonary Vascular Disease Unit
2- Department of Cardiothoracic Surgery, Papworth Hospital, Cambridge, United Kingdom

Background
Chronic thromboembolic disease (CTED) is characterised by persistent pulmonary thromboembolic occlusions without pulmonary hypertension as per current threshold definition. Early surgical treatment with Pulmonary Endarterectomy (PEA) may improve symptoms and prevent disease progression. The outcome of PEA in CTED patients has not been formally reviewed previously.

Objectives
To assess the outcome of PEA in symptomatic patients with extensive CTED.

Methods
Patients with CTED and a mean pulmonary artery pressure (mPAP) < 25 mmHg on baseline right heart catheterisation treated with PEA between January 2000 and July 2013 were identified. Baseline characteristics, perioperative data and postoperative assessment results were collected. Patients were reassessed at 6 months and 1 year following surgery.

Results
Between January 2000 and July 2013, 1019 patients underwent PEA at Papworth Hospital. Of those, 42 patients fulfilled the criteria of having CTED and a mean PAP of less than 25 mmHg. Mean age was 49 ± 16 years and 60% of patients were female. There was no in-hospital mortality and median length of stay was 11 days, but complications occurred in 40% of patients. At one year following surgery, 95% of patients remained alive. Postoperative outcome variables measured at 6 months and 1-year post PEA are displayed in Table 1. There was a significant improvement in symptoms with 95% of patients returning to New York Heart Association (NYHA) functional class I and II during the first year of the surgery. There was a reduction in mPAP and pulmonary vascular resistance (PVR) with no change in cardiac index. Six minute walking distance (6MWD) improved at 6 months and this was maintained at one year. A significant improvement of health related quality of life measured with the Cambridge Pulmonary Hypertension Outcome Review (CAMPHOR) questionnaire was observed at 6 months and sustained at 1 year.

Conclusion
In this carefully selected cohort of CTED patients, PEA resulted in a significant improvement in symptoms, functional status and quality of life. Appropriate patient selection is paramount given the associated risks and morbidity reported, despite mature centre expertise.

We would like to acknowledge the national pulmonary hypertension centres in the UK and Ireland, and support by the Cambridge NIHR Comprehensive Biomedical Research Centre.

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### Abstracts selected for oral presentation

**OUTCOME OF PULMONARY ENDARTERECTOMY IN SYMPTOMATIC CHRONIC THROMBOEMBOLIC DISEASE**

**TABLE 1. Postoperative outcome at 6 months and 1 year post Pulmonary Endarterectomy**

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>1st visit post PEA</th>
<th>2nd visit post PEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYHA functional class</td>
<td>0/20/22/0</td>
<td>16/21/2/0 *</td>
<td>17/12/1/1 *</td>
</tr>
<tr>
<td>Haemodynamics</td>
<td>n=42</td>
<td>n=38</td>
<td></td>
</tr>
<tr>
<td>PAP mean [mmHg, median (IQR)]</td>
<td>21 (5)</td>
<td>18 (5) *</td>
<td></td>
</tr>
<tr>
<td>Cardiac index /min/m², mean ± SD</td>
<td>2.6 ± 0.5</td>
<td>2.5 ± 0.4</td>
<td></td>
</tr>
<tr>
<td>PVR ynes.s.cm⁻³, median (IQR)</td>
<td>164 (104)</td>
<td>128 (60) *</td>
<td></td>
</tr>
<tr>
<td>6MWT</td>
<td>n=37</td>
<td>n=34</td>
<td>n=27</td>
</tr>
<tr>
<td>Distance [m, mean ± SD]</td>
<td>372 ±117</td>
<td>413 ± 90 *</td>
<td>421 ± 113 *</td>
</tr>
<tr>
<td>Baseline SpO2 [% , mean ± SD]</td>
<td>97±2</td>
<td>97 ± 2</td>
<td>97 ± 2</td>
</tr>
<tr>
<td>Min SpO2 on exercise [% , median (IQR)]</td>
<td>91 (6)</td>
<td>93 (5)</td>
<td>93 (3) *</td>
</tr>
<tr>
<td>CAMPHOR</td>
<td>n= 36</td>
<td>n=31</td>
<td>n= 27</td>
</tr>
<tr>
<td>Total score [median (IQR)]</td>
<td>40 (33)</td>
<td>11 (30) *</td>
<td>11 (37) *</td>
</tr>
<tr>
<td>Symptoms [median (IQR)]</td>
<td>15 (13)</td>
<td>4 (12) *</td>
<td>5 (12) *</td>
</tr>
<tr>
<td>Activity [median (IQR)]</td>
<td>10 (9)</td>
<td>5 (6) *</td>
<td>4 (11) *</td>
</tr>
<tr>
<td>Quality of life [median (IQR)]</td>
<td>14 (14)</td>
<td>2 (11) *</td>
<td>1 (12) *</td>
</tr>
</tbody>
</table>

NYHA: New York Heart Association; na: not applicable; PAP: pulmonary artery pressure; PVR: pulmonary vascular resistance; 6MWT: Six minute walking test; Min: minimal, SpO2: peripheral oxygen saturation; CAMPHOR (Cambridge Pulmonary hypertension outcome review) is a disease specific and negatively weighted quality of life questionnaire.

*p < 0.05 compared to baseline.*
NESTIN-POSITIVE CELLS WITHIN PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

C. Brochhausen¹, C. Wiedenroth², S. Krajnak¹, V. H. Schmitt¹, A. Mamilos¹, E. Mayer², C. J. Kirkpatrick¹

1- University Medical Centre, Institute of Pathology, REPAIR-lab, Mainz
2- Kerckhoff Clinic, Thoracic Surgery, Bad Nauheim

Objective
Chronic thromboembolic pulmonary hypertension (CTEPH) is caused by thromboembolisms in proximal and by arteriopathy in distal pulmonary arteries (PA). Both lead to PA obliteration resulting in the increased PA resistance. The pathophysiology is not yet clarified but altered regulation of vascular and circulating cells due to a disturbance of endothelial integrity and permeability play an important part. Therefore it is crucial for the understanding of pathophysiological mechanisms to investigate cell phenotypes and their characteristics included in PA of CTEPH. In the present study the expression of nestin, a marker for stem and precursor cells as well as for activated endothelial cells during neovascularization, was analysed in thrombotic tissue from pulmonary endarterectomy (PEA) samples from CTEPH patients.

Methods
PEA tissue samples from 20 CTEPH patients (10 women, 10 men) were processed according to standardized procedures for histological and immunohistological evaluation. The specimens were examined for nestin expression by the use of a monoclonal antibodies against nestin (1:200). Proximal and distal lesions were analysed regarding nestin expression.

Results
Histomorphologically the proximal samples were characterized by homogenous fibrous tissue with low amounts of spindle cells, whereas the distal samples showed a heterogenous cell-rich tissue with more lining endothelium and numerous small vessels. Nestin positive single cells were detected more often in proximal lesions within thromboembolic material. Nestin positive endothelial cells both of the neointima and in recanalized vessels were found more often in distal lesions of PA.

Conclusions
For the first time nestin expressing cells were evaluated in PEA samples from CTEPH patients. These cells may represent precursor cells of endothelial or mesenchymal origin, such as premyofibroblast-like progenitor cells as well as transitional cells within endothelial-mesenchymal transition. These findings could open innovative perspectives to answer the crucial question if these cells are part of the pathophysiological cascade in CTEPH. Furthermore, it is important to clarify the origin of nestin-positive cells and the potential loss of their nestin-expression during cell differentiation.
Abstracts selected for poster presentation

Full text of the abstracts is available on the ICA website: www.cteph-association.org

a) Abstracts selected for poster presentation on Monday, 2\textsuperscript{nd} June

1. SIGNIFICANT PERSISTENT PULMONARY HYPERTENSION IS A RISK FACTOR FOR THE FAILURE OF VENOARTERIAL EXTRACORPOREAL MEMBRANE OXYGENATIONS AFTER PULMONARY THROMBOENDARTERECTOMY

Hui-Li Gan
Cardiac Surgery Department, Beijing Anzhen Hospital, and Capital Medical University (BAZH—CMU), & Beijing Institute of Heart, Lung and Blood Vessel Disease, Beijing 100029, China. (Fax: 86-10-62244207, Email: ganhulli@hotmail.com)

2. THE WALL ECLIPSING SIGN ON PULMONARY ARTERY COMPUTED TOMOGRAPHY ANGIOGRAPHY IS PATHOGENOMONIC FOR PULMONARY ARTERY SARCOMA

Hui-Li Gan
Cardiac Surgery Department, Beijing Anzhen Hospital, and Capital Medical University (BAZH—CMU), & Beijing Institute of Heart, Lung and Blood Vessel Disease, Beijing 100029, China. (Fax: 86-10-62244207, Email: ganhulli@hotmail.com)

3. USEFULNESS OF OPTICAL COHERENCE TOMOGRAPHY IMAGING IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Yoshihiro Fukumoto, MD, PhD, FESC; Koichiro Sugimura, MD, PhD; Hiroaki Shimokawa, MD, PhD, FESC.
1- Department of Internal Medicine, Division of Cardiovascular Medicine, Kurume University School of Medicine, Kurume, Japan, 2- Department of Cardiovascular Medicine, Tohoku University Graduate School of Medicine, Sendai, Japan

4. A COMPARATIVE STUDY TO DIAGNOSTIC EFFICIENCY TO PULMONARY ARTERY SARCOMA THROUGH VARIOUS DIAGNOSTIC MODES

Gan Hui-li, Zhang Jian-qun, Huang Xiao-yong, Feng Lei, Zhao Yin, Zhu Guang-fa, Chen Dong
Department of Cardiac Surgery, Beijing Anzhen Hospital, Capital Medical University (BAZH-CMU), Beijing Institute of Heart, Lung and Vessel Disease, Beijing 100029 China

5. KLIPPEL-TRENAUNAY SYNDROME AS A RARE CAUSE OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Andrei Seferian, MD\textsuperscript{1,2,3}, David Montani, MD, PhD\textsuperscript{2,3}, Sacha Mussot, MD\textsuperscript{4}, Olivier Sitbon, MD\textsuperscript{1,2,3}, PhD, Philippe Darévellè, MD\textsuperscript{5}, Gérald Simonneau, MD\textsuperscript{1,2,3}, Xavier Jais, MD\textsuperscript{1,2,3}
1- Université Paris Sud, Faculté de Médecine Kremlin-Bicêtre. 2- AP-HP, Centre National de Référence de l’Hypertension Pulmonaire Sèvere, Hôpital Antoine Béclère, Clamart. 3- INSERM U999, Hypertension Artérielle Pulmonaire : Physiopathologie et Innovation Therapeutique, Centre Chirurgical Marie Lannelongue, Le Plessis-Robinson, France. 4- Service de Chirurgie Thoracique, Centre Chirurgical Marie Lannelongue, Le Plessis-Robinson, France

6. VALIDATION OF A SIMPLE NON-INVASIVE ALGORITHM FOR RULING OUT CTEPH SIX MONTHS AFTER ACUTE PULMONARY EMBOLISM

FA Klok\textsuperscript{1}, C Tesche\textsuperscript{2}, L Rappold\textsuperscript{2}, C Dallas\textsuperscript{2}, G Hasenfuss\textsuperscript{G2}, MV Huisman\textsuperscript{3}, S Konstantinides\textsuperscript{1}, M Lankeit\textsuperscript{1,2}
1- Center for Thrombosis and Hemostasis (CTH), University Medical Center Mainz, Germany
2- Department of Cardiology and Pneumology, Heart Center, University of Goettingen, Germany
3- Department of Thrombosis and Hemostasis, Leiden University Medical Center, Leiden, the Netherlands
7. EVALUATION OF PLASMA PENTRAXIN3 IN PATIENT WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH)

Akira Naito1, Nobuhiro Tanabe1, Takayuki Jujo1, Ayako Shigeta1, Toshihiko Sugiura1, Seiichiro Sakao1, Keiichi Ishida2, Koichiro Tatsumi1

1- Department of Respirology, Graduate School of Medicine, Chiba University
2- Department of Cardiovascular Surgery, Graduate School of Medicine, Chiba University

8. RELATIONSHIP BETWEEN IMPROVED PULMONARY ARTERIAL PRESSURE AND CHANGES IN INTERVENTRICULAR SEPTAL CONFIGURATION BY 320-SLICE CT IN PATIENTS UNDER PULMONARY ENDARTERECTOMY

Toshihiko Sugiura, Nobuhiro Tanabe, Hajime Kasai, Yukiko Matsuura, Naoko Kawta, Akira Naito, Seiichiro Sakao, Yasunori Kasahara, Keiichi Ishida*, Koichiro Tatsumi

Department of Respirology, Graduate School of Medicine, Chiba University.
*Department of Cardiovascular Surgery, Graduate School of Medicine, Chiba University

9. PREDICTIVE FACTORS FOR SUCCESS OF PULMONARY ENDARTERECTOMY (PEA) IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH)


CHRU Brest

10. CTEPH NOT SCLERODERMA: USING OCT AS A TOOL FOR DIAGNOSIS IN PULMONARY HYPERTENSION

Christopher D. Loder2, Johannes Schwaiger, Benjamin E. Schreiber1, John G. Coghlan1

1- National Pulmonary Hypertension Service, Royal Free London NHS Foundation Trust
2- Cardiology Department, Royal Free London NHS Foundation Trust

11. HIGH PREVALENCE AND MECHANISMS OF NOCTURNAL BREATHING DISORDERS IN PATIENTS WITH CTEPH. COMPARISON WITH IDIOPATHIC PH.

F Nicolas Jilwan, P Escourrou, G Garcia, X Jais, M Humbert, G. Simonneau and G Roisman

Centre de médecine du sommeil, Hôpital Antoine Béclère, Clamart, France. Service de pneumologie-réanimation respiratoire, CHU le Kremlin Bicêtre, France. INSERM U999

12. IMPACT OF QUANTITATIVE ASSESSMENT OF COMPUTED TOMOGRAPHY VALUE BY USING LUNG PERFUSED BLOOD VOLUME COMPUTED TOMOGRAPHY FOR THE DIAGNOSIS OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Hiroto Shimokawahara, MD, Shun Ijuiuin, MD, Erika Yamashita, MD, Kazuyuki Tanoue, MD, Kiyohisa Hiramine, MD, Kensaku Higashi, MD, Hideki Tanaka, MD, Norihito Nuruki, MD, Masahiro Sonoda, MD

Department of Cardiology, National Hospital Organization, Kagoshima Medical Center, Kagoshima, Japan

13. EFFECTS OF TARGETED THERAPY ON THROMBUS MORPHOLOGY AND THE CELLULAR AND TISSUE COMPOSITION OF PULMONARY ENDARTERECTOMY SPECIMENS – A RETROSPECTIVE HISTOPATHOLOGICAL STUDY

Moseley E1, Southwood M1, Toshner M2, Hadinnapola C2, Jenkins D1, Pepke-Zaba J1, Goddard M1, Sheares K1

1- Department of Pathology, 2- Pulmonary Vascular Diseases Unit, 3- Cardiothoracic Surgery, Papworth Hospital, Cambridge, UK
14. HEMODYNAMIC ASSESSMENT OF PATIENTS (PTS) WITH INOPERABLE CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH) IN THE CHEST-1 STUDY

NH Kim¹, AM D’Armini², E Grüning³, MM Hoeper⁴, P Jansa⁵, E Mayer⁶, G Simonneau⁷, A Torbick⁸, C Wang⁹, MR Wilkins¹⁰, HA Ghofrani¹⁰,¹¹

1- UCSD School of Medicine, USA; 2- University of Pavia, Italy; 3- University Hospital Heidelberg, Germany; 4- Hannover Medical School, Germany; 5- First Faculty of Medicine, Charles University, Czech Republic; 6- Kerckhoff Heart and Lung Center, Germany; 7- University Paris-Sud, France; 8- ECZ-Otwock, Poland; 9- Beijing Institute of Respiratory Medicine, China; 10- Imperial College London, UK; 11- University of Giessen and Marburg Lung Center, Germany.

15. NESTIN-POSITIVE CELLS WITHIN PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

C. Brochhausen¹, C. Wiedenroth², S. Krajnak³, V. H. Schmitt³, A. Mamilos¹, E. Mayer², C.J. Kirpatrick³

1- University Medical Centre, Institute of Pathology, REPAIR-lab, Mainz. 2- Kerckhoff Clinic, Thoracic Surgery, Bad Nauheim

16. ABNORMALLY INCREASED PULMONARY ARTERY PULSE PRESSURE IN CTEPH?

A CRITICAL EVALUATION

D. Chemla¹, N. Creuzé¹, D. Montani², S. Günther³, L. Savale³, X. Jais³, O. Sitbon, G². Simonneau², M. Humbert², P. Herve²

1- Faculté de Médecine Paris Sud-EA4533-Service de Physiologie, CHU de Bicêtre, Le Kremlin Bicêtre. 2- Faculté de Médecine Paris Sud-Service de Pneumologie, Centre National de Référence de l’Hypertension Pulmonaire Sévère, INSERM UMR_S999-CHU de Bicêtre, Le Kremlin Bicêtre. 3- Explorations fonctionnelles, Centre Chirurgical Marie Lannelongue, Le Plessis-Robinson, France

17. DO WE KNOW ALL RISK FACTORS OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION?

Bohacekova M¹, Simkova I², Kaladararova M³, Valkovicova T⁴, Remkova A⁵

1- Department of Cardiology and Angiology, Medical Faculty, Slovak Medical University and NUSCH, Bratislava, SR 2- Centre of Haemostasis and Thrombosis, HemoMedika Bratislava, SR

18. ELECTROCARDIOGRAPHIC TRENDS IN MEDICALLY AND SURGICALLY TREATED PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

M. Wieteska¹, A. Biederman², M. Kurzyna¹, P. Szatkowski³, A. Torbicki²

1- Centre of Postgraduate Medical Education, Department of Pulmonary Circulation and Thromboembolic Diseases, Otwock, Poland. 2- Allenort Hospital, Department of Cardiac Surgery, Warsaw Poland. 3- Institute of Cardiology, Intensive Care Unit, Warsaw, Poland.

19. LOCAL AND SYSTEMIC RAGE AXIS CHANGES IN PULMONARY HYPERTENSION: CTEPH AND IPAH

Bernhard Moser¹, Anna Megerle¹, Christine Bekos¹,², Stefan Janik¹, Tamás Szerafin³, Peter Birner¹, Ana-Iris Schiefer³, Michael Mildner³, Irene Lang³, Roela Sadushi-Kolic³, Nika Skoro-Sajer¹, Shahrokh Taghavi¹, Walter Kleoetko¹ and Jan Ankersman¹,²

1- Department of Thoracic Surgery, Division of Surgery, Medical University Vienna, Währinger Gürtel 18-20, 1090 Vienna, Austria. 2- Christian Doppler Laboratory for the Diagnosis and Regeneration of Cardiac and Thoracic Diseases, Währinger Gürtel 18-20, 1090 Vienna, Austria. 3- Department of Cardiac Surgery, University of Debrecen, Debrecen, Hungary. 4- Department of Pathology, Medical University Vienna, Währinger Gürtel 18-20, 1090 Vienna, Austria. 5- Department of Dermatology, Medical University Vienna, Währinger Gürtel 18-20, 1090 Vienna, Austria. 6- Department of Internal Medicine II, Division of Cardiology, Medical University Vienna, Währinger Gürtel 18-20, 1090 Vienna, Austria
20. RELATIONSHIP BETWEEN LIPID DISORDERS AND CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
Yohei Shigeta, MD; Takumi Inami, MD; Masaharu Kataoka, MD; Haruhisa Ishiguro, MD; Hanako Kikuchi, MD; Hideaki Yoshino, MD; Toru Satoh, MD
Second Department of Internal Medicine, Kyorin University School of Medicine

21. PLATELETS AND CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
Roela Sadushi-Kolici, Max-Paul Winter, Cihan Ay*, Michael Schemper¹, ‡Simon Panzer, Diana Bonderman, Ioana-Alexandra Tilea, Nika Skoro-Sajer, and Irene Marthe Lang
Department of Internal Medicine II, Division of Cardiology, *- Clinical Division of Haematology and Haemostaseology, Department of Medicine I, †- Center for Medical Statistics, Informatics and Intelligent Systems, Section for Clinical Biometrics, and ‡- Department of Blood Group Serology and Transfusion Medicine, Medical University of Vienna

22. SYSTEMATIC CHARACTERISATION OF INFLAMMATION IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
C Hadinnapola, M Southwood, M Toshner, L Harlow, K Page, D Jenkins, K Sheares, J Pepke-Zaba.
Pulmonary Vascular Diseases Unit, Papworth Hospital, Cambridge, UK

23. NON-O BLOOD GROUP SIGNIFICANTLY INCREASES THE RISK OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION AFTER ACUTE PULMONARY EMBOLISM
TM Fernandes¹, CW Baffi², WR Auger¹, and TA Morris¹
1- University of California, San Diego; Division of Pulmonary and Critical Care Medicine
2- University of Pittsburgh; Division of Pulmonary and Critical Care Medicine

24. FEMALE SEX PREDISPOSES TO RESIDUAL PULMONARY HYPERTENSION AFTER PULMONARY ENDARTERECTOMY
TM Fernandes¹, DS Poch¹, WR Auger¹, PF Fedullo¹, KM Kerr¹ and NH Kim¹
1: University of California, San Diego; Division of Pulmonary and Critical Care Medicine

25. BASELINE RIGHT ATRIAL PRESSURE AND MEAN PULMONARY ARTERY PRESSURE DETERMINE RISK FOR REPERFUSION PULMONARY EDEMA AFTER PULMONARY ENDARTERECTOMY
DS Poch¹, WR Auger¹, PF Fedullo¹, NH Kim¹, KM Kerr¹ and TM Fernandes¹
1: University of California, San Diego; Division of Pulmonary and Critical Care Medicine

26. PREOPERATIVE PREDICTION OF SURGICAL SPECIMEN PRIOR TO PULMONARY ENDARTERECTOMY
TM Fernandes¹, MM Madani², VG Pretorius³, SW Jamieson², KM Kerr¹, PF Fedullo¹, DS Poch¹, WR Auger¹, NH Kim¹
1: University of California, San Diego; Department of Medicine; Division of Pulmonary, Critical Care and Sleep Medicine
2: University of California, San Diego; Department of Surgery; Division of Cardiothoracic Surgery

27. SUB-SEGMENTAL PULMONARY ENDARTERECTOMY: TIME FOR A NEW SURGICAL CLASSIFICATION
M. Madani³, S Jamieson¹, V Pretorius², N Kim², K Kerr², P Fedullo², D Poch², N Sakakibara¹, J Higgins¹, W Auger²
Division of Cardiovascular & Thoracic Surgery (¹) and Division of Pulmonary Medicine (²) University of California San Diego Health System, La Jolla, California, USA 92037
Abstracts selected for poster presentation

28. SHEAR STRESS AND CELL CYCLE STRETCH ROLE ON ISOLATED SMOOTH MUSCLE CELLS OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
Yoko Suzuki1,2, Kazuhiko Nakayama1,2, Keiko Yagi2, Muliawan HS1, Satwiko MG1, Kyoko Miyabe2, Yumi Arisawa2, Noriaki Emoto1,2
Kobe University Graduate School of Medicine, Department of Internal Medicine Cardiovascular Division
Kobe Pharmaceutical University Clinical Pharmacy

29. PREDICTOR OF THE IMPROVEMENT OF OXYGENATION AFTER ANGIOPLASTY FOR CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
Masayasu Arihara, Hiromi Matsubara, Isao Tabuchi, Shinya Fujii, Aiko Ogawa, Mitsuru Munemasa
Okayama Medical Center, Department of cardiovascular medicine, Okayama, Japan

30. ROLE OF THROMBIN IN VASCULAR REMODELING IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
A. Ogawa1, S. Ariyasu1, Y. Shinno2, I. Yamadori2, H. Matsubara1, J. X-J. Yuan3
Departments of 1- Clinical Science and 2- Clinical Pathology, National Hospital Organization Okayama Medical Center, Okayama, Japan. 3- Department of Medicine, University of Illinois at Chicago, Chicago, USA

31. REMODELING OF THE RIGHT HEART AND THE LEVEL OF BRAIN NATRIURETIC PEPTIDE IN PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION: A COMPARATIVE CROSS-SECTIONAL OBSERVATIONAL STUDY
N.A. Shostak, A.A. Klimenko, N.A. Demidova
Russian national research medical university n.a. N.I. Pirogov, Moscow, Russian Federation

32. ELEVATED LEFT VENTRICULAR FILLING Pressures in CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
From the Department of Internal Medicine II, Division of Cardiology, Medical University of Vienna

33. CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION: DIFFERENCES AND SIMILARITIES WITH IDIOPATHIC PULMONARY ARTERIAL HYPERTENSION
Hospital Universitario 12 de Octubre

34. RESULTS IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION FROM THE SPANISH PROSPECTIVE REGISTRY
Hospital Universitario 12 de Octubre
35. SYSTEMIC AND LOCAL INHIBITION OF FIBRINOLYSIS INDUCES CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION IN RABBITS
R. Quarck, L. Vengethasamy, A. Ronisz, M. Delcroix
Respiratory Division, University Hospitals Leuven & Clinical and Experimental Medicine Department, KU Leuven, Leuven, Belgium

36. CTEPH AND BIOMARKERS OF ENDOTHELIAL DYSFUNCTION
O. Dzikowska-Diduch¹, M. Kostrubiec¹, B. Lichodziejewska¹, A. Wyzgal¹, M. Roik¹, A. Łabyk¹, E. Górska², U. Demkow², P. Pruszczyk³
1-Medical University of Warsaw, Department of Internal Medicine and Cardiology - Warsaw - Poland, 2-Medical University of Warsaw, Dept. of Lab. Diagnostics and Clinical Immunology of Developmental Age - Warsaw – Poland

37. CAPILLARY DENSITY AND MYOCARDIOFIBROSIS IN ADAPTATION OF THE RIGHT VENTRICULAR FUNCTION TO PULMONARY HYPERTENSION INSIGHT ANIMAL AND HUMAN STUDY
Pierre-Emmanuel Noly, Olaf Mercier, François Haddad, Julien Guihaire, Matthieu Glorion, Peter Dorfmüller, Florence Lecerf, Benoit Decante, Bruno Baudet, Frederic, Saadia Eddahibi, Philippe Dartevelle, Elie Fadel
Department of Thoracic Surgery, Marie Lannelongue Hospital, Le Plessis Robinson, France

38. RIGHT VENTRICULAR FUNCTIONAL RESERVE PREDICTS EXERCISE CAPACITY AND VENTILATORY EFFICIENCY IN PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
Guido Claessen¹, Andre La Gerche¹, Jan Bogaert², Piet Claus³, Hein Heidbuchel¹ and Marion Delcroix⁴
1-Department of Cardiovascular Medicine, University Hospitals Leuven, Leuven, Belgium. 2-Department of Radiology, University Hospitals Leuven, Leuven, Belgium. 3-Department of Cardiovascular Imaging and Dynamics, University of Leuven, Leuven, Belgium. 4-Department of Pneumology, University Hospitals Leuven, Leuven, Belgium

b) Abstracts selected for poster presentation on Tuesday, 3rd June

39. PREOPERATIVE TRANSCATHETER OCCLUDING BRONCHOPULMONARY COLLATERAL ARTERY CAN ALLEVIATE REPERFUSION PULMONARY EDEMA AND IMPROVE EARLY HEMODYNAMIC AFTER PULMONARY THROMBOSENDERERECTOMY PROCEDURE
Hui-Li Gan
Cardiac Surgery Department, Beijing Anzhen Hospital, and Capital Medical University (BAZH—CMU), & Beijing Institute of Heart, Lung and Blood Vessel Disease, Beijing 100029, China (Fax: 86-10-62244207, Email: ganhuili@hotmail.com)

40. THE SURGICAL TREATMENT TO 14 CASES OF PULMONARY ARTERY SARCOMA
Gan Hui-li, Zhang Jian-gun, Feng Lei, Zhang Zhi-tai, Liang Lin, Zhu Guang-fa, Chen Dong
(Department of Cardiac Surgery, Beijing Anzhen Hospital, Capital Medical University (BAZH—CMU), Beijing Institute of Heart, Lung and Vessel Disease, Beijing 100029 China

41. COMPARING ICU NURSING CARE IN POST-PULMONARY THROMBOSENDERERECTOMY PATIENTS VERSUS NON-PTE OPEN-HEART SURGICAL PATIENTS WITH A TIME AND MOTION STUDY
Catherina Madani RN, PhDc, University of California San Diego Health System
Sherry Carreau, RN, BSN, University of California San Diego Health System
Cassia Yi, RN, MSN, University of California San Diego Health System
Abstracts selected for poster presentation

42. RANDOMIZED CONTROLLED TRIAL: EVALUATION OF MULTIFACETED PREOPERATIVE EDUCATION ON POSTOPERATIVE DELIRIUM, ANXIETY AND KNOWLEDGE AMONG PATIENTS UNDERGOING PULMONARY THROMBOENDARTERECTOMY

Catherine Madani RN, PhD, University of California San Diego Health System
Cassia Chevillon, RN, MSN, University of California San Diego Health System
Mary Hellyar, RN, MSN, University of California San Diego Health System
Son Chae Kim, RN PhD, Texas State University, Round Rock, Texas

43. PULMONARY ENDARTERECTOMY IN A COUNTRY WITHOUT PULMONARY ENDARTERECTOMY: THE FAVORABLE IMPACT OF A CROSS-BORDER SYSTEM OF CARE

M.J. Loureiro1, R. Baptista2, G. Castro2, A. Agapito3, T. Shiang4, S. Robalo-Martins5, A. Reis6
1- Hospital Garcia de Orta, Almada, Portugal. 2- University Hospitals of Coimbra, Coimbra, Portugal. 3- Hospital de Santa Marta, Lisbon, Portugal. 4- Hospital Center of Vila Nova de Gaia/Espinho, Vila Nova De Gaia, Portugal. 5- Hospital De Santa Maria, Lisbon, Portugal. 6- Hospital Center of Porto, Porto, Portugal

44. SUCCESSFUL USE OF PRE AND POST OPERATIVE ECMO FOR PULMONARY THROMBOENDARTERECTOMY, MITRAL VALVE REPLACEMENT AND MYOMECTOMY IN A PATIENT WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION AND HYPERTROPHIC CARDIOMYOPATHY

Livia Williams6, Bruce Thomson1, Fiona Kermeen2, Daniel Dallimore3, Marc Ziegenfuss4, Taressa Bull1, Dan Mullany1, John Fraser6
1- Department of Cardiothoracic Services, 2- Queensland Lung Transplant Service, 3- Department of Anaesthesia, 4- Adult Intensive Care Services, The Prince Charles Hospital, Brisbane

45. RIGHT VENTRICULAR REVERSE REMODELING AFTER BALLOON PULMONARY ANGIOPLASTY IN PATIENTS WITH INOPERABLE CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

National Cerebral and Cardiovascular Center, Osaka, Japan

46. BALLOON PULMONARY ANGIOPLASTY IN A PATIENT WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

H. Bouvaist1, F. Thony2, M. Jondot4, B. Camara3, X. Jais4, C. Pison4
1- Cardiologie, 2- Radiologie, 3- Pneumologie, CHU Grenoble, France., 4- APHP, Pneumologie, DHU Thorax Innovation, Hôpital Bicêtre, Le Kremlin-Bicêtre, France

47. PULMONARY INJURY AFTER BALLOON PULMONARY ANGIOPLASTY IN PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION COULD ELIMINATED BY AVOIDING VASCULAR INJURY

Fujii Shinya, Mizoguchi Hiroki, Nagayoshi Shinya, Tabuchi Isao, Ejiri Kentarou, Ogawa Aiko, Matsubara Hiromi
Division of Cardiology, National Hospital organization Okayama Medical Center

48. RETROSPECTIVE INSTITUTIONAL STUDY OF 38 PATIENTS TREATED FOR PULMONARY ARTERY SARCOMA

S. MUSSOT1, M-R GHIGNA1, O. MERCIER1, D. FABRE1, E. FADEL1, A. LE CESNE2 G. SIMONNEAU3, and P. DARTEVELLE1
1- Department of Thoracic, Vascular Surgery and Heart-Lung Transplantation, Marie Lannelongue Hospital, Paris-Sud University-133 Av de la Résistance - 92350 Le Plessis Robinson- France. 2- Department of Medicine, Sarcoma Unit, Gustave Roussy Institute, Paris Sud University- 39, rue Camille Desmoulins- 94800, Villejuif cedex- France. 3- National reference center for severe pulmonary hypertension- department of pneumology- INSERM U999 – Bicètre Hospital 78 Rue du Général Leclerc- 94270- Le Kremlin Bicêtre- France
49. SURGICAL TREATMENT OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION COMBINED WITH ARIAL FIBRILATION AND FLUTTER

Jaroslav Lindner¹, David Ambrož², Robert Novotny¹, Pavel Jansa²

1 - 2nd Surgical Department of Cardiovascular Surgery, General University Hospital and 1st Faculty of Medicine Charles University in Prague. 2 2nd Departments of Internal Medicine Department of Cardiology and Angiology, General University Hospital and 1st Faculty of Medicine Charles University in Prague

50. CHALLENGES OF PULMONARY ENDARTERECTOMY AFTER FAILED PULMONARY BALLOON ANGIOPLASTY

J Higgins¹, W Auger², N Kim², K Kerr², V Pretorius¹, M Madani¹

Division of Cardiovascular & Thoracic Surgery (1) and Division of Pulmonary Medicine (2) University of California San Diego Health System - La Jolla, California - USA 92037

51. IMPACT OF RIOCIGUAT ON HEALTH-RELATED QUALITY OF LIFE (HRQOL) IN PATIENTS (PTS) WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH)

NH Kim,¹ HA Ghofrani,²,³ F Grimminger,² MM Hoeper,⁴ E Mayer,⁵ G Simonneau,⁶ A Fritsch,⁷ N Davie,⁷ BLuong,⁷ MR Wilkins.³

1- UCSD School of Medicine, USA; 2- University of Giessen and Marburg Lung Center, Germany; 3- Imperial College London, UK; 4- Hannover Medical School, Germany; 5- Kerckhoff Heart and Lung Center, Germany; 6- University Paris-Sud, France; 7- Bayer HealthCare, Germany

52. RIOCIGUAT FOR THE TREATMENT OF INOPERABLE OR PERSISTENT/RECURRENT CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH): A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY (CHEST -1)

G Simonneau,¹ HA Ghofrani,²,³ F Grimminger,² MM Hoeper,⁴ NHKim,⁵ E Mayer,⁶ N Davie,⁷ JPena,⁸ MR Wilkins.³

1- University Paris-Sud, France; 2- University of Giessen and Marburg Lung Center, Germany; 3- Imperial College London, UK; 4- Hannover Medical School, Germany; 5- Kerckhoff Heart and Lung Center, Germany; 6- University Paris-Sud, France; 7- Bayer HealthCare, Germany

53. RIOCIGUAT FOR THE TREATMENT OF INOPERABLE CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH) OR PERSISTENT/RECURRENT CTEPH AFTER PULMONARY ENDARTERECTOMY (PEA): A RESPONDER ANALYSIS FROM THE PHASE III CHEST -1 STUDY

AM D’Armini,¹ HA Ghofrani,²,³ NH Kim,⁴ EMayer,⁵ T Pulido,⁶ G Simonneau,⁷ MR Wilkins,⁹ A Fritsch,⁸ NDavie,⁹ MM Hoeper.³

1- University of Pavia, Italy; 2- University of Giessen and Marburg Lung Center, Germany; 3- Imperial College London, UK; 4- UCSD School of Medicine, USA; 5- Kerckhoff Heart and Lung Center, Germany; 6- National Heart Institute, Mexico; 7- University Paris-Sud, France; 8- Bayer HealthCare, Germany; 9- Hannover Medical School, Germany.

54. RIOCIGUAT FOR THE TREATMENT OF CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH): 1-YEAR RESULTS FROM THE CHEST2 LONG-TERM EXTENSION (LTE) STUDY

G Simonneau,¹ AM D’Armini,² HA Ghofrani,³,⁴ F Grimminger,² MM Hoeper,⁵ P Jansa,⁶ NH Kim,⁷ C Wang,⁸ MR Wilkins,⁹ E Mayer.³

1- Univ. Paris-Sud, Hôpital Bicêtre, France; 2- University of Pavia, Italy; 3- University of Giessen and Marburg Lung Center, Germany; 4- Imperial College London, UK; 5- Hannover Medical School, Germany; 6- First Faculty of Medicine, Charles University, Czech Republic; 7- UCSD School of Medicine, San Diego, USA; 8- Beijing Institute of Respiratory Medicine, Beijing Chao Yang Hospital, Capital Medical University, China; 9- Kerckhoff Heart and Lung Center, Germany.
Abstracts selected for poster presentation

55. OUTCOME AFTER PULMONARY ENDARTERECTOMY (PEA): LONGTERM FOLLOW-UP OF THE UK NATIONAL COHORT

J Cannon¹, L Su², M Toshner¹, D Taboada¹, K Sheares¹, C Ng¹, J Dunning¹, STsu¹, D Jenkins¹ and J Pepke-Zaba¹ on behalf of the UK PH centres.
1- Papworth Hospital NHS foundation Trust, Cambridge, UK
2- MRC Institute of Public Health, Cambridge, UK

56. BALLOON PULMONARY ANGIOPLASTY CAN BE AN ALTERNATIVE TREATMENT STRATEGY FOR THE MANAGEMENT OF NON-OPERABLE CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Yu Taniguchi, MD¹, Kazuya Miyagawa, MD, PhD¹, Kazuhiko Nakayama, MD, PhD¹, HirotokInutani, MD¹, Toshiro Shinke, MD, PhD¹, Kenji Okada, MD, PhD⁰, Yutaka Okita, MD, PhD⁰, Ken-ich Hirata, MD, PhD², NoriakiEmoto, MD, PhD⁰
1- Division of Cardiovascular Medicine, Department of Internal Medicine and 2- Division of Cardiovascular Surgery, Department of Surgery, Kobe University Graduate School of Medicine, Kobe, Japan

57. IMPROVEMENT OF CARDIAC OUTPUT AFTER BALLOON PULMONARY ANGIOPLASTY DEPENDS ON PREOPERATIVE RIGHT VENTRICULAR FUNCTION ININOPERABLE CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION.

Yu Taniguchi MD, Noriaki Emoto MD PhD, Kazuhiko Nakayama MD PhD, Kazuya Miyagawa MD PhD, HirotokInutani MD, Toshiro Shinke MD PhD, Ken-ich Hirata MD PhD,
Division of Cardiovascular Medicine, Department of Internal Medicine, Kobe University Graduate School of Medicine, Kobe, Japan

58. CTEPH AND MEDIASTINAL VENOUS MALFORMATION CASE – TREATMENT APPROACH

GA Heresi¹, DG Clair², MP Gomes³, K Karuppasamy³, A Levitin³, NG Smedira⁵
1- Pulmonary and Critical Care, 2- Vascular Surgery, 3- Vascular Medicine, 4- Interventional Radiology, 5- Cardiothoracic Surgery, Cleveland Clinic, Ohio

59. THE EFFICACY OF PULMONARY VASODILATORS IN PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Department of Cardiovascular Medicine, University of Tokyo, Japan

60. A NEW ERA OF THERAPEUTIC STRATEGIES FOR CTEPH: CONTRAST AMONG PULMONARY ENDARTERECTOMY, PERCUTANEOUS TRANSLUMINAL PULMONARY ANGIOPLASTY, AND MEDICAL THERAPY

Hanako Kikuchi, MD; Takumi Inami, MD; Masaharu Kataoka, MD; Haruhisa Ishiguro, MD; Yohei Shigeta, MD; Hideaki Yoshino, MD; Toru Satoh, MD
Second Department of Internal Medicine, Kyorin University School of Medicine

61. PRESSURE-WIRE-GUIDED PERCUTANEOUS TRANSLUMINAL PULMONARY ANGIOPLASTY: A BREAKTHROUGH IN THE CATHETER-INTERVENTIONAL THERAPY FOR CHRONIC THROUMBOEMBOLIC PULMONARY HYPERTENSION

Takumi Inami, MD; Masaharu Kataoka, MD; Haruhisa Ishiguro, MD; Hanako Kikuchi, MD; Yohei Shigeta, MD; Hideaki Yoshino, MD; Toru Satoh, MD
Second Department of Internal Medicine, Kyorin University School of Medicine
62. IMPACT OF PERCUTANEOUS TRANSLUMINAL PULMONARY ANGIOPLASTY FOR CTEPH WITH RESIDUAL PULMONARY HYPERTENSION AFTER ENDORECTOMY
Yohei Shigeta, MD; Takumi Inami, MD; Masaharu Kataoka, MD; Haruhisa Ishiguro, MD; Hanako Kikuchi, MD; Hideaki Yoshino, MD; Toru Satoh, MD
Second Department of Internal Medicine, Kyorin University School of Medicine

63. A GRADUAL IMPROVEMENT WITHOUT FUNCTIONAL RESTENOSIS ONE YEAR AFTER PERCUTANEOUS TRANSLUMINAL PULMONARY ANGIOPLASTY FOR CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
Takumi Inami, MD; Masaharu Kataoka, MD; Haruhisa Ishiguro, MD; Hanako Kikuchi, MD; Yohei Shigeta, MD; Hideaki Yoshino, MD; Toru Satoh, MD
Second Department of Internal Medicine, Kyorin University School of Medicine

64. THE MOST SENSIBLE OBJECTIVE MARKERS IN ECHOCARDIOGRAPHY AND ELECTROCARDIOGRAPHY TO DETECT AN IMPROVEMENT OF PULMONARY HYPERTENSION - A STUDY AFTER PERCUTANEOUS TRANSLUMINAL PULMONARY ANGIOPLASTY
Hanako Kikuchi, MD; Takumi Inami, MD; Masaharu Kataoka, MD; Haruhisa Ishiguro, MD; Yohei Shigeta, MD; Hideaki Yoshino, MD; Toru Satoh, MD
Second Department of Internal Medicine, Kyorin University School of Medicine

65. IS FOREIGN MATERIAL EXTRACTION MANDATORY EVEN IN CLINICALLY UNREMARKABLE PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION?
C Biancosino1, MM Hoeper2, C Fegbeutel1, ITudorache1, C Kühn1, M. Roumieh1, A Haverich2
1- Department of Cardiothoracic, Transplantation and Vascular Surgery, Hannover Medical School, Hannover, Germany. 2- Department of Respiratory Medicine and German Center for Lung Research, Hannover Medical School, Hannover, Germany.

66. OUTCOME OF PULMONARY ENDARTERECTOMY IN SYMPTOMATIC CHRONIC THROMBOEMBOLIC DISEASE
Dolores Taboada1, Joanna Pepke-Zaba1, David P Jenkins2, Marius Berman2, John E Cannon1, Mark Toshner1, John J Dunning2, Choo Ng2, Steven S Tsui2, Karen K Sheares1
1- Pulmonary Vascular Disease Unit and 2- Department of Cardiothoracic Surgery, Papworth Hospital, Cambridge, United Kingdom.

67. A NEW PROGRAM OF SURGICAL MANAGEMENT FOR CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION IN THE ERA OF BALLOON PULMONARY ANGIOPLASTY IN JAPAN
Nobusato Koizumi, MD, PhD, Masato Sato, Kayo Toguchi, Akinarilwahori, Keita Maruno, Satoshi Takahashi, Toru Iwashashi, Tomoaki Iwasaki, Katsuhiko Matsuyama, Toshiya Nishibe, Masahiko Kuinose, Hitoshi Ogino

68. CLINICAL AND FUNCTIONAL ASSESSMENT OF LONG-TERM FOLLOW-UP OF PULMONARY THROMBOENDARTERECTOMY
Department of Aorta and Coronary Artery Surgery. Novosibirsk Research Institute of Blood Circulation Pathology, Novosibirsk, Russia

69. DETERMINANT OF TOTAL PROCEDURAL NUMBER OF BALLOON PULMONARY ANGIOPLASTY FOR CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
S. Minatsu1,2, H. Maki1, M. Hatano1 and H. Matsubara2
1- Department of Cardiovascular Medicine, Graduate School of Medicine, The University ofTokyo 2- Division of Cardiology, National Hospital Organization Okayama Medical Center
Abstracts selected for poster presentation

70. PULMONARY ENDARTERECTOMY AT ST. VINCENT’S HOSPITAL, SYDNEY: COMMENCING A SURGICAL PROGRAM THROUGH MENTORSHIP AND DUAL REVIEWS FOR PATIENT SELECTION
Dhital K, Cham J, Jenkins, D, J Pepke-Zaba, Boshell D, Boyd D, Keogh A and Kotlyar E
St Vincent’s Hospital

71. SURGICAL OUTCOMES OF PATIENTS WITH ANTIPHOSPHOLIPID SYNDROME AFTER PULMONARY ENDARTERECTOMY
Department of Cardiovascular Surgery, Graduate School of Medicine, Chiba University
Department of Cardiovascular Surgery, Chiba Medical Center

72. LONG-TERM EXPERIENCE WITH CTEPH TREATMENT IN THE CZECH REPUBLIC
Pavel Jansa1, David Ambrož2, Jan Kunstý1, Iveta Šimková2, Regina Votavová1, Michael Aschermann1, Aleš Linhart1, Jaroslav Lindner4
1- Charles University, 1st Faculty of Medicine, 2nd Medical Department, Clinical Department of Cardiology and Angiology, Prague, Czech Republic. 2- Charles University, 1st Faculty of Medicine, Department of Anesthesiology and Intensive Care, Prague, Czech Republic. 3- Slovak Medical University, National Institute of Cardiovascular Diseases, Department of Cardiology, Bratislava, Slovak Republic. 4- Charles University, 1st Faculty of Medicine, 2nd Department of Surgery - Department of Cardiovascular Surgery, Prague, Czech Republic

73. THE EFFICACY AND SAFETY OF THE BALLOON PULMONARY ANGIOPLASTY (BPA) FOR INOPERABLE CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION (CTEPH)-PRELIMINARY RESULTS
S. Darocha1, J. Pedowska-Wloszek1, L. Kiljanek1, M. Wieteska1, M. Florczyk1, M. Kurzyńa1, R. Pietera2, A. Torbicki1
(1) European Health Center, Department of Pulmonary Circulation and Thromboembolic Diseases, Otwock, Poland (2) Medical University of Lublin, Department of Radiography, Lublin, Poland

74. PHENPROCOUMON DOSE REQUIREMENTS AND GENETIC POLYMORPHISMS IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION
Ioana A. Tilea, Roela Sadushi - Kolic, Adelheid Panzenboeck, Irene M. Lang
Department of Internal Medicine II, Division of Cardiology, Vienna General Hospital, Medical University of Vienna, Vienna, Austria

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General informations

Congress venue
Institut des Cordeliers
21, rue de l’Ecole de Médecine
75006 Paris
France

The “Institut des Cordeliers” is located in the heart of the famous “Quartier Latin” of Paris. This is a prestigious historic place which used to house the former convent of the Cordeliers from 1234 to 1571. From this convent only subsists today the “Réfectoire des Cordeliers” where the “Club des Cordeliers” (Human and Citizens Rights Society) sittings used to hold.

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Welcome reception – Monday 2nd June 2014
We are delighted to invite all the attendees to the welcome reception scheduled on Monday 2nd at 5.00 pm.
This cocktail reception will take place in the garden of the Institut des Cordeliers.
Pulmonary Vascular Disorders

Editors
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Rogério Souza
Gérald Simonneau

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Anticoagulation for Venous Thromboembolism in the Modern Management Era: Le Gal, G.; Leroyer, C.; Mottrie, D.

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Medical Treatment of Pulmonary Arterial Hypertension: O’Callaghan, D.S.; Gaine, S.P.

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- Increase awareness of CTEPH and its treatment options
- Foster worldwide collaboration among CTEPH centers
- Establish a platform for surgical centers
- Facilitate training of emerging CTEPH centers
- Advance research and improve education in CTEPH

The ICA welcomes health care professionals interested in CTEPH to join. ICA membership allows for privileged information on planned and on-going activities and supports the ICA as an advocate for the advancement of the field of CTEPH.

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