

3rd International Congress on Maternal Hemodynamics, 12 - 14 April 2018

Thursday 12 April 2018

8.00 Registration

9.00 Pre-Congress Workshop

Techniques and measurement in maternal cardiovascular assessment (*Pre-booked*)

12.00 Lunch

Welcome

14.00 *Carmel McEniery, University of Cambridge, United Kingdom and Ian Wilkinson, University of Cambridge, United Kingdom*

14.10 ISUOG Presentation

Christoph Lees, Imperial College London, United Kingdom

Session 1: Hemodynamics - New concepts

Chairs: Carmel McEniery and Ian Wilkinson

14.15 Inflammation as the key to vascular dysfunction
Attilio Speciani, University of Bologna, Italy

14.30 Obesity, GDM and maternal cardiovascular function. Would one test fit all?
Tommy Mousa, University of Leicester, United Kingdom

14.45 Maternal hemodynamics and computerised CTG in the identification of risk during labour
Herbert Valensise, University of Rome, Italy

15.00 Clinical use of nitric oxide donors: Latest insights
Dietmar Schlembach, University of Berlin, Germany

15.15 Discussion

15.30 OS 1: Free Communications on new developments and links with other medical disciplines

1.1 Cardiac adaptation to pregnancy in morbidly obese mothers at term
Bigna Buddeberg, University Hospital Basel, Switzerland

1.2 Nitric oxide donors in women affected by fetal growth restriction: the importance of cardiac dysfunction in non-responder patients
Damiano Lo Presti, University of Rome Tor Vergata, Italy

- 1.3 A pilot study of fetal growth, maternal hemodynamics and plasma and placental expression of epidermal growth factor like domain 7 in pregnancies complicated by fetal growth restriction treated with nitric oxide donors
Grazia Maria Tiralongo, Policlinico Casilino Hospital, Rome, Italy
- 1.4 A pilot study of the effects of metformin on maternal hemodynamics in gestational diabetes mellitus
Mohamed Waseem Osman, University Hospitals of Leicester, United Kingdom
- 1.5 Monocyte subsets and arterial elastance at 13 weeks gestation and the effects of prior hypertension in pregnancy
James Castleman, Sandwell and West Birmingham Hospitals NHS Trust, United Kingdom
- 1.6 A cross sectional study to examine maternal haemodynamic changes, in pregnant women with a body mass index ≥ 35 Kg/M²
Francesca Maria Teresita Leone, University Hospitals of Leicester, United Kingdom
- 1.7 Maternal hemodynamic changes amongst women who were screened for gestational diabetes in comparison to healthy controls
Mohamed Waseem Osman, University Hospitals of Leicester, United Kingdom
- 1.8 Maternal cardiovascular changes secondary to sildenafil intake in pregnancies complicated by severe fetal growth restriction: STRIDER trial
Asma Khalil, St George's, University of London, United Kingdom

16.30 Afternoon Tea

Session 2: Hemodynamic changes and clinical management

Chairs: Christoph Lees and Wilfried Gyselaers

- 17.15 What physicians learned from obstetricians
Valerie Luyckx, University of Zurich, Switzerland
- 17.30 How adult antihypertension can teach us lessons
Ian Wilkinson, University of Cambridge, United Kingdom
- 17.45 Home monitoring of hypertension in pregnancy
Asma Khalil, St George's, University of London, United Kingdom
- 18.00 Discussion
- 18.15 **Closure Day 1**
- 18.20 Talking point and proposals: The future of maternal hemodynamics and of IWGMH (business session of the IWGMH)
Christoph Lees, Imperial College London, United Kingdom, Wilfried Gyselaers, University of Hasselt, Belgium and Herbert Valensise, University of Rome Tor Vergata, Italy
- 18.30 -
19.30 **Welcome Reception**

Friday 13 April 2018

Session 3: Non-invasive technologies for maternal hemodynamic assessment

Chairs: Enrico Ferrazzi and Marc Spaanderman

8.00 Registration

9.00 Blood pressure measurement: which method and thresholds?
Andrew Shennan, Kings College London, United Kingdom

9.15 FMD: Endothelium dependent and independent mechanisms
Charlotte Iacobaeus, Danderyd Hospital, Sweden

9.30 Is the microcirculation relevant?
Andreas Brückmann, University of Jena, Germany

9.45 Skin microvascular function
Thomas Kahan, Danderyd Hospital, Sweden

10.00 Discussion

10.15 **OS 2: Free Communications on non-invasive technologies and their clinical applications**

2.1 Cardiac maladaptation in term preeclampsia - A speckle tracking study
Bigna Buddeberg, University Hospital Basel, Switzerland

2.2 Flow-mediated constriction reveals maternal endothelial dysfunction in preeclampsia
Dominique Mannaerts, University of Antwerp, Belgium

2.3 Central and uterine haemodynamics in healthy and pathological pregnancies
Helen Perry, St George's, University of London, United Kingdom

2.4 Atrial phase characteristics in the jugular venous doppler waveform during uncomplicated pregnancy
Inge Dierickx, University of Hasselt, Belgium

2.5 Central aortic pressure in the first trimester of pregnancy in terms of body mass
Maria Evseyeva, Stavropol State Medical University, Russia

2.6 Cardio-ankle vascular index in female students, whose mothers differed problematic pregnancy
Maria Evseyeva, Stavropol State Medical University, Russia

- 2.7 Oscillometric pulse wave analysis as a method to assess endothelial function: A pilot study
Emily Aldridge, University of Adelaide, Australia
- 2.8 A novel fully-automated technique for measuring carotid intima-media thickness in pregnant women
Swina Santhirakumaran, Imperial College London, United Kingdom
- 2.9 Cardiac alterations caused by pre-eclampsia
Kristin Kräker, Max Delbrück Center for Molecular Medicine, Berlin, Germany

11.15 **Morning Tea**

Session 4: Understanding physiology and pathophysiology

Chairs: Herbert Valensise and Carmel McEniery

- 12.00 Non-invasive monitoring: Lessons from acute medicine
Tim Rainer, Cardiff University, Wales, United Kingdom
- 12.15 The maternal circulation is a circuit with interdependently functioning components
Wilfried Gyselaers, University of Hasselt, Belgium
- 12.30 Phenotype-specific treatment of HT and FGR
Enrico Ferrazzi, University of Milan, Italy
- 12.45 Discussion
- 13.00 **Lunch**

Session 5: Preconceptional physiology and strategies

Chairs: Chahinda Ghossein-Doha and Hans Duvekot

- 14.00 Preconceptional CV status of former PE women in relation to outcome of subsequent pregnancy
Marc Spaanderman, Maastricht University, The Netherlands
- 14.15 Preconception functional hemodynamic testing: An insight into pregnancy cardiovascular health
Victoria Meah, University of Alberta, Canada
- 14.30 Pre-pregnancy cardiovascular optimisation in women with a history of PE
Ralph Scholten, Radboud University Nijmegen, The Netherlands
- 14.45 WATCH UK: Why we need a pre-pregnancy population study
Carmel McEniery, University of Cambridge, United Kingdom
- 15.00 Discussion

- 15.15 **OS 3: Free Communications on preconceptional assessment/management and preclinical screening**
- 3.1 Mitochondrial DNA copy number in peripheral blood in the first trimester of pregnancy and different pre-eclampsia clinical phenotypes development: A pilot study
Andrea Busnelli, University of Milan, Italy
- 3.2 Maternal demographics and hemodynamics for the prediction of fetal growth restriction at booking, in pregnancies at high risk for placental insufficiency
Daniel Stott, King's College Hospital, London, United Kingdom
- 3.3 A novel biomarker for twin-to-twin transfusion syndrome prediction in maternal circulation
Berta Lima de Carvalho, University of Porto, Portugal
- 3.4 Abnormal body fluid volume homeostasis in pregnancies complicated with hypertension or poor fetal growth
Pauline Dreesen, University of Hasselt, Belgium
- 3.5 Phenotypes of pregnant women who develop hypertension in pregnancy
Kelsey McLaughlin, University of Toronto, Canada
- 3.6 Longitudinal study to assess changes in arterial stiffness and cardiac output parameters among low-risk pregnant women
Mohamed Waseem Osman, University Hospitals of Leicester, United Kingdom
- 3.7 Arterial stiffness during controlled ovarian hyperstimulation and early pregnancy in women exposed to assisted reproduction
Emma von Wowern, Lund University, Sweden
- 16.15 **Afternoon Tea and Poster Session**

Session 6: Hemodynamics of GHD and/or IUGR

Chairs: Wilfried Gyselaers and Basky Thilaganathan

- 17.15 Hemodynamic characteristics of TTP, HUS and AFLP and their relationship with pre-eclampsia
David Williams, University College London Hospital, United Kingdom
- 17.30 Why early and late PE are the same condition
Jasmine Tay, Imperial College London, United Kingdom
- 17.45 PreMoM: The Belgian project on telemonitoring for women at risk for GHD
Dorien Lanssens, University of Hasselt, Belgium
- 18.00 Doppler changes and maternal cardiovascular function
Christoph Lees, Imperial College London, United Kingdom
- 18.15 Discussion

18.30 **Closure Day 2**

19.45 -
23.00 **Congress Dinner - Trinity Hall**

Session 7: Management of GHD and/or IUGR

Chairs: Herbert Valensise and Asma Khalil

8.00 Registration

9.00 Vascular function in women with chronic hypertension
Lucy Chappell, Kings College London, United Kingdom

9.15 Monitoring antihypertensive therapy with hemodynamics
Daniel Stott, King's College Hospital London, United Kingdom

9.30 Pre-eclampsia: More than sick pregnant women
Basky Thilaganathan, St George's Hospital, London, United Kingdom

9.45 Discussion

10.00 OS 4: Free Communications on management during disease and postpartum

4.1 Preeclampsia and the risk of later dementia -- A nationwide cohort study
Heather Boyd, Copenhagen University, Denmark

4.2 Haemodynamic assessment and gestational diabetes mellitus: Could we improve the identification of the obstetric risk?
Ilaria Pisani, Policlinico Casilino Hospital, Rome, Italy

4.3 Role of maternal hemodynamic evaluation in the definition of fetuses with growth restriction outcome
Damiano Lo Presti, University of Rome Tor Vergata, Italy

4.4 Monochorionic twin pregnancy and its "physiological" cardiac dysfunction during 3rd trimester
Daniele Farsetti, University of Rome Tor Vergata, Italy

4.5 Some complications of pregnancy and arterial stiffness in the presence of isolated central hypertension
Maria Evseyeva, Stavropol State Medical University, Russia

4.6 Cardiovascular effects of oxytocin and carbetocin at caesarean section, a prospective double-blind randomised study using non-invasive pulse wave analysis
Sofus Rabow, University of Lund, Sweden

4.7 Intraoperative haemodynamic monitoring during high-risk caesarean section: A comparison between pressure waveform (lidcorapid®) and bioreactance analysis (nicom®)
Juan de Dios Gutierrez Henares, St George's Hospital, London, United Kingdom

- 4.8 Placental growth factor as an indicator of maternal cardiovascular risk after pregnancy
Laura Benschop, Erasmus University Medical Center, Rotterdam, The Netherlands
- 4.9 Cardiovascular health after a hypertensive pregnancy disorder: Better or worse?
Laura Benschop, Erasmus University Medical Center, Rotterdam, The Netherlands
- 11.00 Morning Tea

Session 8: Postpartum and long term cardiovascular function after PE

Chairs: Marc Spaanderman and Christoph Lees

- 11.45 Postpartum and long term cardiovascular function after PE
Chahinda Ghossein-Doha, Maastricht University, The Netherlands
- 12.00 Assisted reproductive technologies induced alteration of the cardiovascular phenotype
Théo Meister, University Hospital of Bern, Switzerland
- 12.15 Public health benefits of maternal hemodynamics assessment during pregnancy and beyond
Hans Duvekot, Erasmus University Medical Center, Rotterdam, The Netherlands
- 12.30 Discussion
- 12.45 Best Abstract Award
- 13.00 Closure of Congress
Lunch

****This programme is subject to changes, and is correct as of 06.04.18***

Posters

- P.1** Agreement between blood pressure techniques used in pregnancy
Emily Aldridge, University of Adelaide, Australia
- P.2** Multivariable evaluation of the maternal hemodynamic profile in high-risk pregnancies complicated by intrauterine growth restriction: A prospective study
Daniela Denis Di Martino, University of Milan, Italy
- P.3** Maternal hemodynamic profile in hypertensive disorders and intrauterine growth restriction during pregnancy and postpartum
Daniela Denis Di Martino, University of Milan, Italy
- P.4** Cardiac dysfunction in late-onset pre-eclampsia - the interaction between intrauterine growth restriction and preeclampsia in third trimester hemodynamic profiles
Lisa Grange Persson, Statens Serum Institute, Copenhagen, Denmark
- P.5** Comparison of two non-invasive devices measuring arterial stiffness and central blood pressure in pregnancy
Helen Perry, St George's, University of London, United Kingdom
- P.6** Maternal haemodynamics in normal pregnancies and in pregnancies affected by pre-eclampsia
Daniel Stott, King's College Hospital, London, United Kingdom
- P.7** Prenatal exercise for the prevention of gestational diabetes mellitus and hypertensive disorders of pregnancy: a systematic review and meta-analysis
Margie Davenport, University of Alberta, Canada
- P.8** New perspective in pre-eclampsia risk assessment: Quantification of endogenous marinobufagin by a specific and very sensitive uplc-ms/ms assay in pregnant women
Charline Lenaerts, University of Mons, Belgium
- P.9** Is maternal arterial function associated with birth weight?
Swina Santhirakumaran, Imperial College London, United Kingdom
- P.10** The effect of a raised BMI on surgical morbidity in women undergoing caesarean section - A pilot study
Samantha Yeo, KK Women's and Children's Hospital, Singapore
- P.11** The venous heart-brain axis, intracerebral hypertension and complications of pregnancy: A literature search
Inge Dierickx, University of Hasselt, Belgium
- P.12** Anticoagulation therapy in pregnant women with mechanical heart valves
Nguyen Van Thao, Vietnam National Heart Association, Hanoi, Vietnam
- P.13** Does metformin prevent preeclampsia? A systematic review and meta-analysis
Juan de Dios Gutierrez, St George's, University of London, United Kingdom
- P.14** Characteristics of the obstetric patients admitted in the intensive care unit of Sanglah General Hospital Indonesia in 2014-2017
Stella Kawilarang, Udayana University, Bali, Indonesia