

Màj 02/07/2020

UE 2.2. Concepts récents en diabète et maladies cardio-vasculaires

12 ECTS

Parcours « *Diabetes and Cardiovascular Diseases* »

ST3 : Complication of obesity and type 2 diabetes: focus on pathophysiology of heart, vascular and fatty liver diseases

Contact : Annabelle Dupont (annabelle.dupont@univ-lille.fr)

Obesity and diabetes can lead to long-term complications including atherosclerosis, fatty liver disease, nephropathy and heart failure. The aim of this seminar is to give an overview of the current state of knowledge regarding pathophysiological determinants and cellular/molecular mechanisms involved in the development and the progression of these serious complications. A large part of this seminar will be dedicated to methodologies and experimental and translational approaches which focus on the understanding of these mechanisms, the identification of new biomarkers and/or therapeutic targets of these conditions. The seminars will be constituted of lectures (including TED conference), analyses of articles, presentations by the students and discussion times with the students.

Durée : 4 days

Programme

Day 1: Atherosclerosis

9h-10h30: Introduction to atherosclerosis (C Delhay)

Emphasis on clinical data

Basic on atherosclerosis pathogenesis

10h45-11h45: Vascular biology and physiopathology, extra-cellular matrices, endothelium functions and dysfunctions, angiogenesis (Invited speaker/A Dupont)

11h45-12h45: Environmental impact on atherogenesis

TED talk Circadian Rhythm and restitution by students

13h45-14h45: Circadian clock and shiftwork on atherogenesis (H Duez)

14h45-16h45: Plaque progression and complications in diabetic patients

Vascular and valvular calcification (M Rosa)

Intraplaque neovascularization in diabetic patients (B Pourcet)

Restitution by students of one of the two conferences to choose

16h45-17h30: Press review on chronopharmacology

Analyses and feedback

Day 2: Thrombogenesis

9h-10h: Hemostasis and thrombogenesis, general principles (S Susen)

10h15-11h30: Thrombogenesis regulation by flow (A Rauch)

11h-45-12h30: Discussion on various articles on thrombogenesis regulation, driven by the students (A Dupont)

Kidney and ageing

13h30-14h30: Mitochondria and ageing (S Lancel)

14h35-15h20: Exogenous glycation /food (F Teissier)

15h25-16h10: Endogenous glycation /diabetes-ageing (E Boulanger)

16h15-17h00: Kidney and glycation: translational perspectives (M Frimat)

Day 3: Heart

9h00-9h45: General basis on heart failure and post-myocardial infarction (N Lamblin/G Lemesle)

9h50-10h35: Chronobiology of the heart (D Montaigne)

10h50-11h35: Immunity and arrhythmia (S Ninni)

11h40-12h25: Signaling pathways involved in heart failure (E Dubois-Deruy)

13h30-14h30: 5 min talk of students on their research subject with 1 slide and questions by the other students

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14h35-15h20: Apoptosis pathway and cardiac contractile dysfunction (S Lancel)

15h25-16h10: Mechanisms of autophagy in heart failure (A Turkieh)

16h15-17h00: Biomarkers and biology system analysis applied to heart failure (C Bauters/F Pinet)

17h00-18h00: COVID-19 and heart (invited speaker)

Day 4: Fatty Liver Diseases: NASH/NAFLD

9h00-10h00: NASH/NAFLD in clinics: definition, epidemiology, risk factors, pathogenesis, diagnosis, treatments (G Lassailly)

10h15-11h15: Pathophysiological mechanisms of NASH/NAFLD. Recent advances in methodologies and approaches to study pathophysiological mechanisms involved in development and progression of NASH/NAFLD using animal and cellular models (J Haas)

11h30-12h30: Article presentation by a group of students (reverse classroom)

14h00-15h00: NASH/NAFLD and cardiovascular/heart diseases: What is the connection?

15h15-16h15: NASH/NAFLD diagnosis and treatment: Where are we now?

(Presentation of the PreciNASH consortium: the use of OMICS for identification of new biomarkers of diagnosis, clinico-biological model for the prediction of NASH, new therapeutic targets to treat NASH)

16h30-17h30: Invited conference

Equipe pédagogique : Annabelle Dupont, Hélène Duez, Réjane Paumelle-Lestrelin, Florence Pinet, Benoit Pourcet, Sophie Susen, Antoine Rauch