Discipline **MCP5874**

Diabetes, Inflammation and Atherosclerosis: Critical Analysis of Basic and Clinical Research

Concentration area: 5131

Creation: 13/12/2016

Activation: 13/12/2016

Credits: 2

Workload:

Theory (weekly)	Practice (weekly)	Study (weekly)	**Duration**	**Total**
10	10	10	1 weeks	30 hours

Professors:

Carlos Vicente Serrano Junior

Eduardo Gomes Lima

Objectives:

1) To contribute to the understanding of pathophysiology of atherosclerosis related to diabetes and potential therapeutic targets, biomarkers and new drugs. 2) To promote conditions of developing of critical interpretation of main trials in this field, including basic research and clinical trials. 3) Through international collaboration, we sought to stimulate high quality research with appropriated scientific methodology designed to answer contemporary questions in this field.

Rationale:

Interaction between diabetes, inflammation and atherosclerosis has been field of several trials, including mechanistic and clinical ones. Once diabetes promotes accelerated atherosclerosis with higher rates of cardiovascular events among those with both conditions, understanding of pathophysiology and therapeutic options could impact in prognosis of this condition. Number of publications indexed in PUBMED in this set has increased since 10 years ago, with almost 800 in 2005 and more than 1,400 in 2015. Some anti-diabetic drugs acting in different metabolic pathways have been developed in the last 10 years and recently showed reduction of cardiovascular events. Otherwise, best treatment for CAD among diabetics is motive of debate and some trials were designed to study this specific condition.

Content:

Adipokines, diabetes and atherosclerosis Lipids in diabetes Anti-diabetic drugs and CAD: incretin-based therapies and SGLT-2 inhibitors Biomarkers in diabetes-related CAD: troponins, LPA, LPPLA-2, us-CPR. Subclinical atherosclerosis and diabetes: screening and stratification. Chronic Kidney Disease, Diabetes and CAD OMT for diabetes-related CAD Interventional procedures for CAD and diabetes: PCI versus CABG

Type of Assessment:

See observation field

Notes/Remarks:

EVALUATION CRITERIA: Practical Presentation of seminars and discussion with professors and distinguished specialists in this field comprising main trials published in high impact journals. Development of a scientific project related to this field with rationale, appropriate methodology, and funding resources. Theoretical 1) Participation in discussions and assiduity in classes with presentations provided by professors and international collaborators. OBSERVATION: Invited Professors: Michael Farkouh (University of Toronto) and James de Lemos (UT Southwestern Medical Center) Minimum number of students: 9 Maximum number of students: 18

Bibliography:

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5. Bertoni AG, Burke GL, Owusu JA, et al. Inflammation and the incidence of type 2 diabetes: the Multi-Ethnic Study of Atherosclerosis (MESA). Diabetes Care. Apr 2010;33(4):804-810.
6. Turrini F, Messora R, Giovanardi P, et al. Screening asymptomatic patients with diabetes for unknown coronary artery disease: does it reduce risk? An open-label randomized trial comparing a strategy based on exercise testing aimed at revascularization with management based on pharmacological/behavioural treatment of traditional risk factors. DADDY-D Trial (Does coronary Atherosclerosis Deserve to be Diagnosed and treated early in Diabetics?). Trials. Dec 23 2009;10:119.
7. Mancini GB, Farkouh ME, Brooks MM, et al. Medical Treatment and Revascularization Options in Patients With Type 2 Diabetes and Coronary Disease. J Am Coll Cardiol. Sep 6 2016;68(10):985-995.
8. Kang SH, Park GM, Lee SW, et al. Long-Term Prognostic Value of Coronary CT Angiography in Asymptomatic Type 2 Diabetes Mellitus. JACC Cardiovasc Imaging. Nov 2016;9(11):1292-1300.
9. Baber U, Farkouh ME, Arbel Y, et al. Comparative efficacy of coronary artery bypass surgery vs. percutaneous coronary intervention in patients with diabetes and multivessel coronary artery disease with or without chronic kidney disease. Eur Heart J. Aug 29 2016.
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16. Omland T, de Lemos JA, Sabatine MS, et al. A sensitive cardiac troponin T assay in stable coronary artery disease. N Engl J Med. Dec 24 2009;361(26):2538-2547.
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or Medical Treatment. Ann Thorac Surg. May 2016;101(5):1735-1744.
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Languages taught:

Portuguese