Nothing lethal: no relationship between Euro/World football cup matches and coronary heart disease deaths in Switzerland

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Background: several authors have suggested that watching football matches might increase the risk of developing coronary heart disease (CHD).

Objective: to assess the relationship between football matches and CHD mortality in Switzerland.

Methods: Swiss mortality data was collected for the periods of European cups 1980 to 2004 and World cups 1982 to 2006 (385,238 deaths). CHD was assessed using the following ICD definitions: acute myocardial infarction (AMI) + unstable angina + acute ischaemic heart disease, unspecified + cardiac arrest + other cardiac arrhythmias. Matches carrying a potential extra stress, i.e. where the Swiss national team played or with over time or penalties, where flagged.

Results: after adjusting for year, age and gender, no increase in the risk of dying from CHD was found in days when matches occurred (table). Similarly, no increase in the risk of dying from CHD was found for matches with extra time or with penalties, or after stratification on gender (table). Restricting deaths to AMI only also did not change the results (not shown).

Conclusion: no relationship was found between Euro or World cup football matches and CHD mortality in Switzerland. Matches with extra time or with penalties do not carry any additional risk.

Table 1: risk of dying of CHD according to football matches

	All (n=385,238)	**Men (n=196,023)**	**Women (n= 189,215)**
Year	0.995 (0.993 – 0.997)	1.000 (0.997 – 1.002)	0.992 (0.988 - 0.997)
Gender			
Women	1 (ref.)	-	-
Men	0.86 (0.84 - 0.88)	-	-
Age group			
18-44	1 (ref.)	1 (ref.)	1 (ref.)
45-64	2.56 (2.34 - 2.80)	2.70 (2.44 - 2.98)	2.36 (1.90 - 2.92)
65-74	2.97 (2.73 - 3.24)	2.57 (2.34 - 2.83)	4.62 (3.77 - 5.64)
75+	3.20 (2.93 - 3.50)	2.56 (2.31 - 2.84)	5.11 (4.18 - 6.25)
Match day			
No	1 (ref.)	1 (ref.)	1 (ref.)
Yes	1.01 (0.96 - 1.05)	1.03 (0.97 - 1.09)	0.98 (0.92 - 1.04)
Swiss team plays			
No	1 (ref.)	1 (ref.)	1 (ref.)
Yes	0.90 (0.75 - 1.07)	0.97 (0.77 - 1.23)	0.80 (0.60 - 1.06)
Extra time or penalties			
No	1 (ref.)	1 (ref.)	1 (ref.)
Yes	0.93 (0.82 - 1.05)	0.91 (0.77 - 1.08)	0.95 (0.79 - 1.14)

Faculty of Biology and Medicine

FBM Research Day

January 27, 2011

César Roux Auditorium

Cardiovascular and Metabolic Disorders

UNIL | Université de Lausanne

CHUV

Contents

Cover: Yannick Krempp, Department of Cell Biology and Morphology – UNIL

Photos: Epifluorescence microscopy of a mouse heart section showing
a-actinin stained cardiomyocytes provided by Philippe Kiehl
and Thierry Pedrazini, Experimental Cardiology Unit, CHUV (top)
and echocardiographic M-mode image and ECG monitoring of a beating
mouse heart provided by Corinne Berthonneche et al., Cardiovascular Assessment Facility
& Experimental MIcrosurgery Facility (CAF/EMIF), Cardiomet, CHUV (bottom)

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Message of the Vice-Dean for Research

Dear Friends and Colleagues,

On behalf of the Organizing Committee I would like to welcome you to the ninth edition of the CHUV Research Day, which will be dedicated to cardiology and metabolism. Clinical and research development in both fields has been given high priority at the CHUV and UNIL, and the coming years should see significant progress toward the establishment of corresponding clinical and research centres.

Growing evidence indicates that inflammation is causally related to obesity and diabetes. Thus, obesity is associated with low grade systemic inflammation that constitutes one of the mechanisms underlying obesity-associated morbidity. Moreover, chronic inflammation is a significant risk factor for the development of cardiovascular and metabolic disease and continuous secretion of factors such as TNFα and IL-6 is associated with increased risk for numerous chronic diseases including insulin resistance, atherosclerosis and type 2 diabetes.

Given that obesity is a complex disorder, a mutidisciplinary approach is necessary to unravel its pathogenesis and underlying mechanisms. The use of numerous « omic » technologies including genomics, proteomics and metabolomics is becoming essential in order to identify inflammatory biomarkers that may be implicated in the pathogenesis of obesity and the mechanisms that link the increase in adipose mass to morbidity. Once identified, elucidation of the role of the relevant inflammatory factors in the various disorders related to obesity will be essential.

Among cardiovascular diseases, atherosclerosis is linked not only to inflammation but to an adaptive immune response as well. However, whereas the role of Th1 lymphocytes in atherogenesis is well established, less is known about the role of othee T cell subsets, including Th2 and Th17. Elucidation of the full repretoire of mechanisms whereby adaptive immunity enhances atherogenesis will no doubt be important.

The program to which you have been invited will cover a variety of aspects of the implication of inflammation and immunity in obesity and atherogenesis with a view as to possible novel therapeutic approaches down the line.

I would like to thank the Scientific Committee for putting together a high quality program with a superb panel of guest speakers and hope that you will find the event to be both stimulating and enjoyable.

Ivan Stamenkovic
Vice-Doyen for Research

Message du Vice-Doyen de la Recherche

Cher(e)s Collègues, Cher(e)s Ami(e)s,

Je vous souhaite la bienvenue à la neuvième édition de la Journée de Recherche CHUV dont les thématiques sont la cardiologie et le métabolisme. Ces thématiques représentent des domaines de développement prioritaires du CHUV et de l'UNIL et prennent une importance croissante dans notre Faculté.

Les développements récents dans le domaine du métabolisme indiquent que l'inflammation joue un rôle important dans l'obésité et dans le diabète. Ainsi, l'obésité est associée à un état inflammatoire systémique chronique de bas grade qui constitue l'un des mécanismes potentiels impliqué dans les complications de l'obésité. L'inflammation chronique de bas grade est un facteur de risque significatif pour les maladies cardiovasculaires et métaboliques, et la sécrétion continue des médiateurs tels que le TNFα et l'IL-6 est associée à un risque augmenté pour de nombreuses maladies chroniques y compris la résistance à l'insuline, l'artériosclérose et le diabète de type II.

La physiologie de l'obésité étant complexe, il est évident qu'une approche multidisciplinaire est nécessaire pour comprendre son processus et les mécanismes qui y conduisent. L'utilisation de nouvelles technologies, y compris la génomique, la protéomique et la métabolomique devient indispensable afin d'identifier les biomarqueurs inflammatoires qui pourraient être impliqués dans la pathogénèse de l'obésité ainsi que dans les mécanismes moléculaires qui lient l'augmentation la masse du tissu adipeux aux dysfonctions de l'organisme. Il est de ce fait essentiel de comprendre le rôle des différents facteurs inflammatoires dans les affections liées à l'obésité.

Parmi les maladies cardiovasculaires, la pathogénèse de 'artériosclérose est intimement liée à la réponse immune adaptative. Toutefois, alors que le rôle athérogène des lymphocytes Th1 est bien établi, celui des autres sous groupes lymphocytaires T, y compris Th2 et Th 17 l'est moins mais de plus en plus de données suggèrent que ces lymphocytes participent à la régulation de l'artériosclérose et l'élucidation de leur mécanisme d'action sera d'importance.

Le programme auquel vous êtes conviés fait le point sur les approches actuelles de l'analyse de la réponse inflammatoire et immune dans l'obésité et dans l'artériosclérose et examine les voies thérapeutiques possibles.

Je tiens à remercier les membres du comité scientifique pour avoir établi un programme stimulant et de très haute qualité et je vous souhaite de passer une journée agréable.

Ivan Stamenkovic
Vice-Doyen de la Recherche

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FBM RESEARCH DAY 2011

Thursday, January 27th, 2011

César-Roux Auditorium, CHUV, Lausanne

Attendance is free - No registration is necessary

"Cardiovascular & Metabolic Disorders"

08:45 **Ivan STAMENKOVIC**
Vice Dean for Research

NUTRITION AND METABOLISM

09:00 **Karine CLEMENT**
Pierre & Marie Curie University, Paris, France
Human adipose tissue; pathological alteration in obesity and diabetes

09:45 **Coffee & Poster presentations**

10:15 **PACTT and morning short talks**

11:45 **Johan AUWERX**
EPFL, Lausanne, Switzerland
Integrating metabolic control by NAD+ sensors

12:30 **Lunch, Coffee & Poster presentations**

ATHEROSCLEROSIS & INFLAMMATION

13:30 **Ziad MALLAT**
Inserm U970, Paris, France
University of Cambridge, Cambridge, UK
Adaptive Immunity in Atherosclerosis

14:15 **Euresearch and afternoon short talks**

15:45 **Coffee & Poster presentations**

VASCULAR AGEING VASCULAR AGEING

16:15 **Pierre BOUTOUYRIE**
G. Pompidou European Hospital, Paris, France
Vascular ageing: pathophysiology and basis for therapeutics

17:00 **Poster Prize Ceremony**

17:30 **Apéritif**

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Short talks

Schedule	Names & Departments	Titles
Morning		
10h15 - 10h30	**Stefan KOHLER** PACTT – UNIL/CHUV	*From the lab to the market: Commercialisation of research results*
10h30 – 10h45	**Cécile JACOVETTI** Department of Cellular Biology and Morphology - UNIL	*The role of micro-RNAs in beta-cell mass expansion during pregnancy*
10h45 – 11h00	**Pedro MARQUES-VIDAL** Social and Preventive Medicine CHUV	*Prevalence and management of cardiovascular risk factors among migrants in Switzerland*
11h00 – 11h15	**Francesca AMATI** Department of Physiology - UNIL and Service of Endocrinology, Diabetology and Metabolism - CHUV	*Skeletal muscle mitochondrial content and electron transport chain activity in older adults at risk for type 2 diabetes: relationship to insulin sensitivity, metabolic flexibility and fatty acid oxidation*
11h15 – 11h30	**Evrim JACCARD** Departement of Physiology UNIL	*Involvement of the RasGAP-derived fragment N in the resistance of pancreatic beta cells towards apoptosis*
11h30 – 11h45	**Luca CARIOLATO** Institute of Pharmacology and Toxicology - UNIL	*Characterization of novel hypertrophic pathways activated by the AKAP-Lbc signalling complex in cardiomyocytes*
Afternoon		
14h15 – 14h30	**Sasha HUGENTHOBLER** Euresearch	*European funding opportunities for health and health related research*
14h30 – 14h45	**Mohammed NEMIR** Experimental Cardiology Unit CHUV	*Cardiac-specific overexpression of the Notch ligand Jagged1 reduces cardiac hypertrophy and fibrosis in response to hemodynamic stress*
14h45 – 15h00	**Hoshang FARHRAD** Service of Nuclear Medicine CHUV	*Myocardial Blood Flow Quantification with Rubidium-82 Cardiac PET has Incremental Prognostic Value in Patients with Known or Suspected Coronary Artery Disease*
15h00 - 15h15	**Muriel AUBERSON** Department of Pharmacology and Toxicology - UNIL	*GLUT9 and uric acid handling by the kidney*
15h15 - 15h30	**Fabienne MAURER** Service of Medical Genetics CHUV	*Mapping genetic variants associated to beta-adrenergic responses in inbred mice*
15h30 – 15h45	**Maxime PELLEGRIN** Service of Angiology CHUV	*Critical role of Angiotensin II type 1 receptor on bone marrow-derived cells in the development of vulnerable atherosclerotic plaque in 2-Kidney, 1-Clip ApoE-/- mice*