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PhD in Medical Sciences
2014-2015

INVITATION to the Public defence of

Sylvie DE RAEDT

To obtain the academic degree of '**DOCTOR IN MEDICAL SCIENCES**'

Autonomic dysfunction in acute ischemic stroke**Monday 30 March 2015**

Auditorium **Brouwer**, 17:00
Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:

<http://www.vub.ac.be/english/infoabout/campuses>



Vrije Universiteit Brussel

Summary of the dissertation

Stroke is a substantial public health problem. It affects yearly 19,000 people in Belgium with a one-year-mortality of 50%. About 87% of strokes are ischemic. Ischemic stroke is caused by an occlusion of a cerebral artery. A number of systemic factors aggravate initial brain damage in ischemic stroke and worsen outcome. These factors include hypertension, blood pressure variability, cardiac arrhythmias and hyperglycemia. Post-stroke infections and spleen volume reduction are also associated with poor stroke outcome. The underlying mechanisms and optimal treatment strategy of these manifestations needs further research. In the first part of the thesis, we investigated the relationship between autonomic dysfunction, post-stroke infections, lymphocyte subset changes and spleen size reduction in patients with acute ischemic stroke. Second, we studied the role of cardiac sympathetic activity in the blood pressure course of acute ischemic stroke patients by measuring the washout ratio on MIBG images. Finally, we examined the effect of pre-stroke beta-blocker use, which attenuates sympathetic activity, on stroke severity and stroke outcome. Main conclusions of this thesis are: 1) Blood pressure course and infections in acute ischemic stroke might be partially explained by a sympathovagal imbalance with sympathetic overweight; 2) An early rise of natural killer cells, followed by a drop of all lymphocyte subsets, might predict post-stroke infections; 3) Spleen size reduction is associated with post-stroke infections and 4) Pre-stroke beta-blocker use does not influence stroke severity or stroke outcome. Further studies are needed to confirm these findings. In addition, the role of stroke localization, stroke severity and patient personality in the development of autonomic dysfunction needs to be explored. Instead of beta-blocker use, other treatment strategies modulating the sympathovagal balance might be alternative therapeutic options in acute ischemic stroke.

Curriculum Vitae

Sylvie De Raedt was born on the 13th of July 1976 in Gent. She is married to Dany Massaad and mother of Camille, Emma and Fenix. In 2001 she obtained her medical degree at the University of Gent, summa cum laude. After two years of residency in internal medicine at the Universitair Ziekenhuis Brussel (Professor Brigitte Velkeniers), she started her training in neurology (Professor Guy Ebinger). Since September 2007, she is a staff member of the department of neurology led by Professor Jacques De Keyser. In 2009 she started her PhD on autonomic dysfunction in acute ischemic stroke. In 2011 she obtained an unrestricted grant from Astra Zeneca to study the role of the sympathetic nervous system in acute stroke. She was member of the scientific board of the Belgian Stroke Council from 2007 to 2013 and treasurer from 2009 to 2013. After the retirement of Dr Eric Schmedding, she re-orientated from stroke to epilepsy. She is member of the Epilepsie Liga. Lately, she developed an interest in neuro-oncology.