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PhD in Medical Sciences
2017-2018

INVITATION to the Public defence of

Sophie Van Malderen

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

Altered right ventricular electromechanical conduction in Brugada syndrome.

Thursday 28 June 2018

Auditorium **Piet 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>

Summary of the dissertation

This thesis showed that simple, non-invasive echocardiographic parameters representing conduction delay (right ventricular ejection delay (RVED), RV contraction duration (RVCdur)) and mechanical dispersion (SD, Delta-RVCdur) are prolonged in male patients with Brugada syndrome (BS) along with an unchanged myocardial shortening amplitude. Moreover, the increased conduction delay and mechanical dispersion in BS males is more pronounced in those with previous malignant arrhythmic events.

Whereas up to now only the 'repolarization' hypothesis provided an explanation for the predominant male malignant phenotype in BS, our group has now supported this male predominance mechanically through different parameters of conduction delay: RVED, RVCdur, SD and Delta-RVCdur.

Furthermore, we established that BS patients carrying more severe SCN5A variants leading to premature protein truncation (T) and presumably 100% INa reduction, had a longer RVED than patients carrying missense variants (M) with different degrees of INa reduction.

In conclusion, we report a high number of patients with coexisting BS and skeletal sodium channel myotonia. Our findings suggest a possible impact of SCN4A variants on the pathophysiological mechanism underlying the development of a type 1 ECG pattern and of malignant arrhythmia symptoms in some patients with BS.

Curriculum Vitae

Sophie Van Malderen was born on May 8th 1980 in Dendermonde. After finishing her secondary school in Science-Mathematics at the Sint-Vincentius institute in Dendermonde, she started her medical studies in 1998 at the VUB. She graduated magna cum laude at the VUB in 2005. Afterwards she started her specialization in Cardiology at the UZ Brussel with Prof. dr. Guy Van Camp en Prof. dr. Danny Schoors and graduated as a cardiologist in 2011. During this period she worked at the Imelda Hospital in Bonheiden, the ZNA Middelheim Hospital in Antwerp and the UZ Brussel in Jette.

In november 2011 Sophie started her fellowship in clinical Electrophysiology at the Thoraxcenter in het Erasmus MC in Rotterdam under the supervision of van Prof. Dr. Luc Jordaens en Prof. Dr. Tamas Szili-Torok. She was trained to perform ablations, implant pacemakers and defibrillators, and mechanically extract leads.

At this moment, she works at the AZ Nikolaas, het AZ Lokeren and ZNA Middelheim Ziekenhuis in Antwerp.

She lives in Bornem together with Constantijn Franssen, their daughter Mira and son Alexander.