

Board of examiners

Prof. dr. Dorte Møller Jensen
Steno Diabetes Center Odense
Odense University Hospital, Denmark

Prof. dr. Kristina Casteels
Division of Pediatric Endocrinology
Department of Pediatrics
University Hospital Leuven, Belgium

Prof. dr. Bart Van der Schueren
Department of Endocrinology
University Hospital Leuven, Belgium

Prof. dr. Filip Cools
Division of Neonatology
Department of Pediatrics
University Hospital Brussels, Belgium.

Prof. dr. Antoine De Backer
Division of Pediatric Surgery
Department of Pediatrics
University Hospital Brussels, Belgium

Prof. dr. Yvan Vandenplas, Chair
Department of Pediatrics
University Hospital Brussels, Belgium

Prof. dr. Inge Gies, Promoter
Research unit GRON, Vrije Universiteit Brussel
Division of Pediatric Endocrinology
Department of Pediatrics, University Hospital Brussels, Belgium

Prof. dr Roland Devlieger, Promoter
Research unit Organ Systems
Department of Development and Regeneration, Katholieke Universiteit Leuven
Department of Gynaecology, University Hospital Leuven, Belgium



Joint PhD VUB & KU Leuven
2020-2021

INVITATION to the Public defence of

Karolien VAN DE MAELE

To obtain the academic degree of

'DOCTOR OF MEDICAL SCIENCES'-VUB
'DOCTOR OF BIOMEDICAL SCIENCES'-KU LEUVEN

Offspring born after maternal bariatric surgery.

The defence will take place on **Wednesday, 16th December 2020 at 5 p.m.**

and will be organised **online**.

Please register to receive the link by using the QR-code or sending an e-mail to karolien.vandemaele@uzbrussel.be



Summary of the dissertation

The main topic of this thesis revolved around a better understanding of the long-term effects on the offspring of women who underwent bariatric surgery before their pregnancy. Therefore, a cross-sectional cohort study was designed to scrutinize the offspring of mothers who underwent bariatric surgery before pregnancy (EFFECTOR-study). They were compared to the offspring of a group of women with overweight or obesity during pregnancy (OW/OB group) and the offspring of a group of women with normal weight during pregnancy (NW group). A prospective data collection was performed to gain insight in the body composition, metabolic and inflammatory state as well as the vascular function (measured by peripheral arterial tonometry) of the children.

The children born after bariatric surgery (BS) presented with the highest body weight SD score, BMI SD scores, excess in body fat percentage and waist circumference SD score at childhood age, compared to the matched OW/OB offspring or NW offspring. Meal-skipping behavior and fruit and vegetable consumption was comparable between the groups. We did find that the BS group consumed more low-calorie sweetened beverages compared to the NW group but less fruit juice compared to the NW and OW/OB groups. Additionally, children of the BS group had a higher diastolic blood pressure SD score and a lower Reactive Hyperemia Index compared to the children of the OW/OB and NW group.

According to the different findings presented in this thesis, we concluded that children born after maternal surgery remain susceptible to the intergenerational, vicious circle of obesity programming.

Curriculum Vitae

Karolien Van De Maele obtained her medical degree at the University of Ghent in June 2014. She started her pediatrics residency at the Vrije Universiteit Brussel (VUB) in September 2014. She spent the second year of her pediatrics residency abroad, in the Sint Elisabeth Hospital, Willemstad, Curaçao. Karolien started a joint PhD project upon her return in September 2016 which set up a collaboration between the department of pediatrics of the University Hospital of Brussels (supervisor Prof. Dr. I. Gies) and the department of gynaecology and obstetrics of the University Hospital of Leuven (supervisor Prof. Dr. R. Devlieger). For her PhD research, she got funded by a doctoral research grant from the Belgian Society for Pediatric Endocrinology and Diabetology (BESPEED) and obtained additional research funding from Wetenschappelijk Fonds Willy Gepts of the UZ Brussel.

Karolien disseminated her research by various poster and oral presentations at national and international scientific conferences. The work conducted during her doctoral thesis resulted in five publications as first-author and several co-publications in peer-review journals. She also presented her research to children (participation in "Wetenschapsbattle" and "Dag Van De Wetenschap") and participated in several media items.