

Report to the NFOG Board 2013

Research stay at the Centre for Genetic Origins of Health and Disease at the University of Western Australia July 2012 - July 2013

After years as a trainee in Obstetrics and Gynecology I currently spend my time as a PhD-student working on the genetic background of preeclampsia and possible pathophysiological mechanisms which might exist both in the development of preeclampsia and cardiovascular diseases.

Like in many other common human diseases, development of preeclampsia involves multiple genetic components, environmental factors and the interactions between the two. The genetics underlying susceptibility to development of preeclampsia are complex and not yet fully understood. Cardiovascular disease is the leading cause of death worldwide and the number of cardiovascular deaths has increased in women. Further, women with preeclamptic pregnancies have up to eight-fold higher risk for development of atherosclerosis and cardiovascular disease later in life.

The genetic analyses required for our project was performed in Australia, and due to an invitation from our collaborators at the Centre for Genetic Origins of Health and Disease at the University of Western Australia I spent 12 months of my PhD-study in Perth, Australia. The head of the centre, Professor Moses, has a special interest in preeclampsia, as well as in the common etiology of preeclampsia and cardiovascular disease, and he included me as a part of his research group and involved me in both the planning of new projects and in research performed at the centre and with their collaborators.

In addition to my own work, I was allowed and expected to take part in the formal meetings of the centre, in the theoretical education offered, and specifically in the everyday discussions on challenges, methods and exiting discoveries within the field of Genetics and learning about the software used as an integrated part of the work taking place at the centre.

This experience have given me, as an only clinician within the group, a different, wider, and useful perspective on the time consuming, important work to achieve clinically useful results based on information and samples from clinical databases and biobanks.

Contrary to often suggested, preconceived ideas, our life in Australia was not just sand, surf and sun. The focus of our working days changed between preeclampsia, malignant melanoma, sleep apnoae, sarcoma and schizophrenia - all common, complex genetic diseases like both preeclampsia and cardiovascular diseases.

The most surprising and probably most satisfying experience at work this year was the unexpected, but enormous increase in computer and software knowledge I acquired through the research we did. To learn how to use general and genetic software programs like Excel, R, Quanto, SOLAR efficiently, and getting used to the programming languages gave me an appreciation of the complexity of the computational work and statistical knowledge needed to produce reliable research.

In December summer schools were held and attended, and we celebrated Christmas Day with a barbecue in a sunny 40 degrees- as well as spending the summer holidays and the rest of December and January under similar weather conditions -quite unlike anything experienced in Norway ever.

The good-natured helpfulness of the Australians was rather overwhelming at first, as all the colleges offered to lend us furniture as well as transporting both us and the furniture to wherever we wanted. The kindness and sincerity behind all the invitations received, resulting in sailing, camping in the bush, barbecues and dinners was heartwarming and a lesson in hospitality. Consequently, two of my new colleges from Perth will visit and expand our collaboration during the coming months. As this year was made into a family project, I brought with me invaluable support and the possibility to share all aspects of this incredible learning experience with someone.

My warmest thanks to the Nordic Federation of Societies of Obstetrics and Gynecology for the support.

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