



Title: Investigation into Venous Insufficiency in Multiple Sclerosis

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Timing: 7/1/10/-6/30/12

Amount: C\$200,000 over two years

- The team is studying the prevalence of CCSVI in 200 people including those with MS and controls without MS, using catheter venography, ultrasound, and magnetic resonance venography.
- Unique to this study is the inclusion of family members, such as identical twins of MS patients who have not developed MS, in control groups.
- The team hopes to verify the usefulness of non-invasive techniques that would make it easier to screen for CCSVI, which would be needed if results from this and other research confirm that future therapeutic trials are warranted.
- The research aims to determine the reliability and accuracy of different imaging techniques for screening for CCSVI. This information will be needed if results from this and other research confirms that future therapeutic trials are warranted.

About the Investigators: Dr. Anthony Traboulsee is an experienced MS clinician and researcher who plays many roles at the UBC Hospital including Medical Director of the MS Clinic, Director of the MS Clinical Trials Research Group, and Assistant Director of the MS/MRI Research Group. He is also Assistant Professor of Medicine/Neurology at UBC Faculty of Medicine. He began his career earning a BS in biology from McGill University, then went to Dalhousie University for his MD degree. He was a neurology resident at UBC Hospital, part of Vancouver Coastal Health Authority, then got further training there as a postdoctoral fellow in multiple sclerosis. He also received training in MS and neurology and was a visiting research assistant at the Institute of Neurology in the UK. He returned to UBC Hospital in 2001 and became head of the MS clinic there in 2009. He has broad experience in MS clinical trials, and has authored numerous research papers. Dr. Traboulsee will lead the research team at the BC site.

Dr. Katherine Knox is the Director of the Saskatoon MS Clinic and Assistant Professor with the College of Medicine, University of Saskatchewan. She is a primary investigator with the Cameco MS Neuroscience Research Centre at Saskatoon City Hospital. She completed her specialty training in Physical Medicine and Rehabilitation at the University of Saskatchewan

and her MD at McMaster University. At the University of Saskatchewan she is involved in teaching medical students and residents, multidisciplinary rehabilitation and research focusing on physical activity in MS. Dr. Knox will lead the research team at the Saskatchewan site.

Together the SK and BC sites will have assembled an excellent team from Vancouver Coastal Health (VCH) /University of British Columbia (UBC) and Saskatoon City Hospital/University of Saskatchewan that includes highly experienced MS neurologists, radiologists, interventional radiologists, physicists and a neuroethicist.

Details: This team is taking a comprehensive approach to study the prevalence of venous insufficiency in 200 people with MS and controls without MS, using catheter venography, Doppler ultrasound such as what was originally used to identify CCSVI, and magnetic resonance studies of the veins (MR venography). A unique aspect of this program is that they are including family members – including identical twins of MS patients who have not developed MS -- as control groups to gain further insight into CCSVI. The team hopes to verify the usefulness of non-invasive techniques that would make it easier to detect venous insufficiency, should this and other research suggest that future therapeutic trials are warranted.

Recruitment: A total of 200 participants including eligible persons with MS and their family members who are registered with the Canadian Collaborative Project on Genetic Susceptibility to MS (CCPGSMS). Recruitment number is approximate and is subject to change.

Additional Personnel:

- Dr. Dessa Sadovnick, UBC Hospital, VCH/UBC
- Dr. David K.B. Li, UBC Hospital, VCH/UBC
- Dr. Lindsay Machan, UBC Hospital, VCH/UBC
- Dr. Alexander Rauscher, MRI Research Centre, VCH/UBC
- Dr. Alex MacKay, MRI Research Centre, VCH/
- Prof. Judy Illes, Brain Research Centre, VCH/UBC
- Dr. Christopher Voll, Faculty of Medicine, University of Saskatchewan
- Dr. Sheldon Wiebe, Department of Medical Imaging, University of Saskatchewan
- Dr. Peter Szkup, Royal University Hospital, University of Saskatchewan
- Dr. Michael Kelly, Royal University Hospital, University of Saskatchewan

Quote – Dr. Anthony Traboulsee

- “The strength of our study is that it employs a comprehensive imaging protocol and a unique comparison group of individuals with an increased risk to develop MS. Our study will determine if CCSVI is strongly and uniquely associated with MS.”

Quote – Dr. Katherine Knox

- “The unique inclusion of a family member control group in this study may allow us to gain further insight into the possible role of CCSVI in the mechanisms leading to MS.”