THE BRO-MOCRIPTINE IN HEART FAILURE (BRO-HF) INITIATIVE

The BRO-HF initiative is a project initiated by residents for residents. The overall aim is to initiate a group of residents to clinical research and bring them together under a series of prospective projects. We are dedicated to become a self-sustained team capable of involving Cardiology residents willing to learn clinical research across Canada. Our initiative has 2 objectives:

Our Scientific mission is to assess the safety and efficacy of bromocriptine in PPCM to improve the care of patients with PPCM. This will be achieved through 4 steps (figure). The steps entail so far a collaboration between residents in cardiology from all four medical faculties in Quebec, aiming at recruiting collaborators from across the country. We aim to implement a registry-based pilot randomized clinical trial (RCT) making use of innovative methods where residents are the lead investigators (under supervision). The main hypothesis of our mission is that bromocriptine will improve patient-oriented cardiovascular outcomes as well as the quality of life in women with PPCM.

Our pedagogic mission is to fulfill a crucial need in high-quality research training among residents in cardiology. In the BRO-HF initiative, residents will lead a prospective randomized controlled trial and be involved in all key operational aspects, including design, ethics, and knowledge translation. Residents from across Canada will be invited to either join the network or participate in the various committees where independence is needed.

Scientific background and rationale. Peripartum cardiomyopathy (PPCM) is a rare, but significant heart condition affecting young women in the puerperal period. Thus far, no specific treatment has been approved to treat this entity. PPCM has a wide spectrum of manifestations ranging from mild heart failure to severe cardiomyopathy and death. More than half of survivors remain with chronic heart failure leading to disabling symptoms and decreased quality of life. To date, there is no data on the prevalence and outcomes of Canadian women diagnosed with PPCM.

Few molecules, such as bromocriptine, levosimendan, and pentoxyfilline have been tested in pilot studies, providing varying results. Bromocriptine, a dopamine agonist known to reduce serum prolactin concentrations, has been shown to be a promising agent in the South African population. However, the small sample size of the study and concerns regarding its safety are major hindrances that prevent its widespread use in PPCM.
Overview of methods

STEP 1 - Systematic review of treatment options for PPCM. A systematic review of clinical studies focusing on the treatment of PPCM has been performed according to the PRISMA statement. It is accepted for publication in the Canadian Journal of Cardiology.


STEP 2 – Province-Wide PPCM retrospective registry. Medical charts for cases identified as PPCM using the ICD9-10 codes are being retrospectively reviewed and key medical data abstracted, including the use of bromocriptine. Nine academic centers across the province of Quebec have been involved, with more expected to come. These centers represent the four Faculties of Medicine in Quebec (Université de Montréal, McGill University, Université Laval à Québec, and Université Sherbrooke). The preliminary results will be presented on June 4th 2015 at the Montreal Heart Institute Research Day. Abstracts have been submitted to the CCC 2015.

STEP 3 – BRO-HF Pilot randomized-registry trial. Randomized-registry trials combine data from a dedicated prospective registry with data from an administrative health database. The former is used as a sampling frame to randomize participants and as a source of baseline information. The latter is used to gather follow-up information and compare the efficacy and safety of assigned treatments. Follow-up will be performed using conventional methods but also using administrative health care databases. Consecutive patients with new onset PPCM diagnosed within the hospital networks of the four Faculties of Medicine in the province of Quebec will be eligible. Key exclusion criteria are active thrombotic events, cardiogenic shock, and significant coronary artery disease. After signed consent, patients will be assigned to either bromocriptine or placebo using a 1:1 variable block randomization. Patients assigned to the bromocriptine arm will be treated with an open-label bromocriptine 2.5 mg twice daily for two weeks, followed by bromocriptine 2.5 mg daily for 6 weeks. An independent blinded clinical event adjudication committee will assess outcomes. The primary endpoint will be a composite of all-cause mortality, cardiac transplantation, use of left ventricular mechanical support, and re-hospitalization for heart failure at the longest available follow-up. Secondary endpoints will include variation in LVEF, NYHA functional class, and quality of life at 6 months. Early clinical follow-up will be performed by the investigators and long-term clinical follow up will be performed with the use of Quebec administrative health database. The largest PPCM trial ever reported included 20 patients (Sliwa K. et al., Circulation. 2010). This pilot trial has the potential to become the most important PPCM trial ever reported.

Echocardiogram will be analysed in a dedicated project with blinded core laboratories.

The team

Executive Committee

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The BRO-HF initiative
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For more information and to contact us,
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