

PROGRAM: Cardiology

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FELLOWSHIP DIRECTOR

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DATE OF THE REPORT

March 30, 2011

Fellowship: Heart Failure and Transplant

STRUCTURE AND ORGANIZATION OF THE PROGRAM

a. Impact of the fellowship

Heart Failure has become one of most common pathologies seen in cardiology. General cardiologists are expected to have a solid knowledge of heart failure as they are likely to encounter a large number of patients with this condition in their practice; in addition, most benefit from understanding the basics of post-transplant care and mechanical assist devices as patients can present anywhere with complications of such therapies.

The Heart Failure and Transplant program at McGill provides top of the line care for advanced Heart Failure patients, such as heart transplant, combined organ transplant, implantable and percutaneous mechanical assist devices, biventricular pacing, ultrafiltration etc. We follow over 1000 patients with Heart Failure, Heart Transplant or Ventricular Assist Device and this number continues to grow. We transplant approximately 10 patients per year, whether it be single heart transplants or combined organ transplants, such as heart-liver, heart-kidney, heart-pancreas-kidney. We are involved in large international, multi-institute clinical trials investigating the role of novel medical and surgical heart failure therapies. We are proud to offer our patients the possibility of enrolling in clinical trials investigating the role of new, cutting-edge therapies for heart failure. Furthermore, we conduct original protocols within our own institution, in collaboration with the Departments of Epidemiology and Cardiac Surgery. Many medical students, internal medicine residents and cardiology fellows have completed clinical projects under our supervision, which have been presented at national and international meetings and published in peer-reviewed journal.

Impact on the cardiology residency program:

With such a wide array of clinical activity in the field of Heart Failure and Transplant, having a dedicated fellowship at McGill University is important in advancing patient care, teaching and research. There are many layers of complexity in the care which is delivered to patients with heart failure, going from basic chronic and acute heart failure syndromes to complex multi-organ transplant and mechanical assist devices; therefore a Heart Failure and Transplant fellowship can be seen as complementary to the Cardiology residency training program rather than in competition.

The Heart Failure and Transplant fellow is expected to be a resource person for the other residency programs. He/she is expected to teach McGill general cardiology fellows and residents from other specialties. With regards to patient care, his/her constant presence on the cardiology, general internal medicine, cardiac and intensive care units during and after working hours, and his/her knowledgeable input regarding patient management can make him/her an important part of our cardiology department with regards to more difficult cases.

Organization of rotations and education experiences for the Heart Failure/Transplant fellow:

During the 12 months of training, the trainee will acquire knowledge of basic and advanced medical, device and surgical therapies for advanced heart disease through the following clinical and research activities:

- Three outpatient heart failure clinics, one heart transplant clinic, one combined heart failure/sleep clinic per week. Trainee will have his/her own patients whom he/she will follow over the course of the year with an assigned nurse and attending, with access to a secretary.
- One combined Echocardiography-Heart Failure clinic per week involving mainly optimization of cardiac resynchronization therapy and research echocardiograms
- Learn the process of pre-transplant evaluation, including criteria for listing and required standardized work-up
- Do new consults and round on hospitalized heart failure and transplant inpatients, including patients hospitalized at the Montreal General Hospital
- Post-transplant care with focus on perioperative management, immunosuppressive therapy and treatment of acute cellular or humoral rejection
- Perioperative and follow-up care of patients with mechanical Ventricular Assist Device
- On call responsibility for the heart failure and transplant service with assigned heart failure specialist one in 3 call
- Supervision of residents for issues pertaining to patients hospitalized with Heart Failure, Transplant and Ventricular Assist Devices
- Teaching of residents during CCU teaching sessions or Cardiology fellows academic half-days (didactic sessions or journal clubs)
- Presentation of patients at the monthly multidisciplinary Heart Transplant meeting for evaluation of transplant candidacy
- Attendance at the combined organ transplant meetings (renal, cardiac, pancreas, liver, lung) and at the MAUDE unit meetings when common patients are being discussed
- Participation and presentation in the Heart Function Center bimonthly mortality and morbidity rounds
- Participation in at least two harvests and subsequent heart transplants

- Performance of post-transplant surveillance cardiac biopsy in the catheterization laboratory (optional)
- Trainee will be expected to complete 2 clinical research projects during the course of the year either on the topic of Heart Failure or Heart Transplant, to present this research at national and international meetings and to publish in peer-reviewed journal. He/she will have access to support from the McGill University Epidemiology Department. Travel, registration and poster printing costs will be covered for abstract presentations.

There are numerous meetings which he/she will be encouraged to attend and/or submit abstracts to, namely:

- The Canadian Cardiovascular Congress
- The American College of Cardiology
- The American Heart Association
- The European Society of Cardiology
- The International Society of Heart and Lung Transplantation
- The Canadian Society of Transplantation
- The Heart Failure Society of America
- The Canadian Heart Failure Summit
- La Société Québécoise d'Insuffisance Cardiaque
- The American Society of Echocardiography

Curriculum

Trainee will be expected to see at least 5 outpatients per clinic and round on a total of 5 hospitalized patients at any time. The bulk of outpatient cases will consist of new heart failure consults and follow-up, pre-transplant/mechanical heart device evaluations and post-transplant routine follow-ups. Inpatient care will mostly consist of cases with decompensated heart failure, medical cardiac/non-cardiac complications or rejection post-transplant, and patients with post-op mechanical assist device surgery or complications. Outpatient visits include scheduled as well as unscheduled visits.

Finally the Heart Failure/Transplant fellow is encouraged to take charge of his/her own education depending on his intended future site and style of practice. The specific needs of each fellow will be assessed by the Heart Failure teaching faculties and training will be tailored to best suit each individual fellow's needs.

b. Service/education balance

This is mainly a clinical fellowship with approximately one fifth of the time focused on research. Direct clinical exposure to patients is the best way to learn. The teaching is done around cases, therefore doing clinics and rounding in the hospital on inpatients are the cornerstone of this fellowship. The call burden is

not heavy: even if the fellow is frequently on call, actual calls are rare. Since heart transplant is an unexpected and rare event, the fellow needs to maximize his clinical exposure by being on call often. Therefore there is still plenty of time for the fellow to read on his/her own.

IV-EVALUATION OF THE FELLOW PERFORMANCE & FREQUENCY OF EVALUATIONS

Format for evaluation used in this program:

	YES	NO
Mid-rotation evaluations	X	<input type="checkbox"/>
Face-to-face meetings	X	<input type="checkbox"/>
Evaluations are timely	X	<input type="checkbox"/>

Comments:

The Heart Failure and Transplant fellowship had a first fellow in 2008-09 (Dr. A. Al-Mulla). Since then there has not been another fellow. Funding issues have been the main obstacle. There are no readily available funds to hire a fellow, therefore he/she needs to come with his/her own funding, either from his/her government or in the form of an award/bursary. We hope that eventually we will be able to secure a fund to hire more fellows in the future.

V. SUMMARY

a. Strengths of the program

High levels of clinical exposure for heart failure, access to the latest surgical therapies, research possibilities

b. Weaknesses of the program

Difficulty in securing funding, low numbers of heart transplants