SUMMARY

With a view towards becoming more environmentally responsible and coming into the electronic age, this year our department completed the process of converting from paper files to electronic records. Our patients also now have the privilege of registering themselves on our Self-Registration System.

As diabetes goes to epidemic proportions, a multi-faceted approach is essential for the care of patient. We have been able to establish and maintain an exercise program for our diabetic patients.

Introduction

Clinical Services

Endocrinology is largely an outpatient specialty. Including the Gestational Diabetes Clinic and Bone and Osteoporosis Clinics that do not function in our premises, the number of visits for this year exceeded 25,000.

Outpatient clinics are run around the week by GFT’s. Non-GFT’s run clinics on Monday and Thursday mornings. The increase in the number of patients is still very high. Constraints in space and support personnel as well RAMQ policy restricting the recruitment of endocrinologists have resulted in physician-scientists increasing their clinical hours and reducing their research time. A triage system has been established to prioritize appointments for new patients in most urgent need (e.g. decompensated diabetics, thyrotoxic patients). The clerical staff has not increased despite the patient load doubling over the past 7 years resulting in staff burn out. Although all staff physicians see patients spanning the whole spectrum of endocrine and metabolic diseases, some clinics are focused on a particular condition, as shown in the table below.

The Survival Skills Program of self-management education for patients with diabetes has continued to function regularly with private donations. No additional resources have been provided this year for the essential program.

Dr. Michael Tamilia has been able to accomplish the following:
- Risk assessment for thyroid nodules with TIRAD sonography system applied to all patients referred for thyroid nodule biopsies.
- Ultrasound-guided needle biopsies still offered without charge to patients with thyroid nodules/masses.
- Collaboration with Dr. George Chong from Department of Pathology to apply genetic mutation analysis in the diagnosis of thyroid nodules.
- Collaboration with Dr. Mark Trifiro and Dr. Elliot Mittmaker to characterize gene mutations in stored thyroid tumor specimens.
In-patient activities are centered on the Endocrine Consulting Service, attended by our staff physicians for a total commitment at a minimum of 6 weeks in 2-week blocks scheduled through the year. Volume of in-patient endo consults is approximately 1200/year. Another responsibility is the triage of outpatient consultations; urgent ones are fast-tracked, the balanced distributed among the members of the division. In addition, our staff is actively involved in CTU rotations. The Division does not have assigned beds and endocrine patients are admitted to general wards.

Clinics:

Monday AM: Diabetic Clinic (Kader); General Endocrinology (Schweitzer, Karaplis, Trifiro)
Monday PM: General Endocrinology (Karaplis, Assimakopoulos,)
Tuesday AM: Thyroid (Tamilia); General Endocrinology (Trifiro, Assimakopoulos, Schiffalin)
Tuesday PM: General Endocrinology (Assimakopoulos, Schiffalin, Christopoulos, Richards)
Wednesday AM: General Endocrinology (Trifiro, Majdan, Karaplis); Diabetic Foot Care
(Dr. R. Chaytor); Osteoporosis I (Trifiro); Gestational Diabetic, Pav.H (Kader)
Wednesday PM: General Endocrinology (Christopoulos, Richards, Majdan); Osteoporosis II
(Karaplis); Lipid Clinic (Schweitzer)
Thursday AM: General Endocrinology (Schiffalin, Tamilia, Majdan, Christopoulos, Clamen, Rizzo);
Thursday PM: General Endocrinology (Assimakopoulos, Schweitzer)
Friday AM: General Endocrinology (Schiffalin, Schweitzer, Trifiro, Christopoulos, Majdan)

1. Research and publications:

Our young physicians, John Brent Richards and Agniezska Majdan, continue to perform as superb academic physicians; Dr. Brent Richards has in short order achieved already much acclaim in his young career. Senior researchers are also active. 2012 was an outstanding year for Endocrine Research Studies. A part-time Clinical Research Nurse was hired to aid with the seven (7) clinical studies conducted at the new treatment center (see list below). Ninety-nine patients participated in these trials over the year.
Research projects and publications are listed under Section II.

2. Teaching and learning (undergraduate and graduate):

Medical Students
- Metabolic Bone Disease in Unit 5, Med I; preparation of lecture notes, case study, and quiz for students and organizing small group tutors.
- One 1-hour lecture on metabolic bone disorders and two 1.5-hour small group sessions

Residents
- Core lectures in Endocrinology
- Simulated oral examination in Internal Medicine

Postgraduate Fellows
Advances in Human Genetics: A post graduate course offered by the Department of Human Genetics: Three 1.5-hr lectures on the genetics of metabolic bone diseases

Endocrine Residents (Fellows) and Medical Residents doing elective rotations participate in all our clinical activities. They are under the direct supervision of the Attending on service. Residents must attend clinics while not busy with the in-patient service. Some clinics such as: Gestational Diabetes, Thyroid, Lipid and Osteoporosis Clinic are compulsory. Our Division has become very popular for elective rotations among residents and students. All trainees rotating through the Division must attend Endocrine Grand Rounds (every Thursday from 11:30-12:30). This past year we have had an unusually high number of Endocrine Residents, and the same is expected for the next academic year. In addition to McGill Medical Students doing elective rotations, we have received students from UK, Germany, China, and Thailand during the last year. Notably, the majority of McGill candidates to McGill Endocrine Residents have come from our Internal Medicine training program over the last several years, a reflection of the positive influence of our staff on the Residents. The McGill Endocrine Teaching Program at large was highly rated by the trainees with our Division receiving the highest ratings in a large number of items, notably conferences, bedside and outpatient teaching, integration with basic sciences.

In addition to these tutorial activities, divisional members lecture extensively on essential endocrinology for residents and non-endocrinologists in general and prevention of obesity and diabetes.

Our Division also actively participates in the undergraduate teaching of Endocrine Physiology and Calcium Homeostasis (Med-I Physiology) with 6 of our members being small group tutors this year (Assimakopoulos, Beitel, Kader, Karaplis, Schiffrin, and Trifiro). All GFT’s have also been very active on CME accredited activities. Dr. Tina Kader has been traditionally active in CME to various groups of physicians, paramedical personnel, as well as in giving talks to the community at large Ms. Joyce Arsenault (Nurse, Certified Diabetes Educator), Ms. Maria Di Narzo (nurse, Certified, Diabetes Educator) and Ms. Sondra Sherman (Dietitian) have worked together with Dr. Tina Kader in this latter endeavour.

Dr. Michael Tamilia has continued to receive the recognition of our young colleagues and students as a truly exceptional teacher. Drs. Tina Kader and Morris Schweitzer continue to be remarkably active in CME activities primarily addressed to general practitioners, internists and specialists. Thus, the JGH Endocrine Division has reached a high profile at the university, national and international levels.

In addition, Endocrine Grand Rounds, under the direction of Dr. Mark Trifiro, have continued to be a great success because of the timeliness of the subjects, the sensible balance of basic and clinical science and the quality of the invited speakers. Endo Grand Rounds are given weekly from September to June.

Overall, the Division of Endocrinology is one of the most, if not the most, active in contributing its staff to teaching (Professional Skills and Introduction to Internal Medicine and Physiology) and CTU coverage within the Department of Medicine at the Jewish General Hospital.
3. **Involvement in the community:**

In addition to these tutorial activities, the Division of Endocrinology offers a yearly cycle of lectures on essential endocrinology for residents and non-endocrinologists in general. Our Division also actively participates in the undergraduate teaching of Endocrine Physiology and Calcium Homeostasis (Med-I Physiology) with 6 of our members being small group tutors this year (Assimakopoulos, Beitel, Kader, Karaplis, Schiffrin, and Trifiro). All GFT’s have also been very active on CME accredited activities. Dr. Tina Kader has been traditionally active in CME to various groups of physicians, paramedical personnel, as well as in giving talks to the community at large on prevention of obesity and diabetes. Ms. Joyce Arsenault (Nurse, Certified Diabetes Educator), Ms. Maria Di Narzo (nurse, Certified, Diabetes Educator) and Ms. Sondra Sherman (Dietitian) have worked together with Dr. Tina Kader in this latter endeavour.

4. **Partnerships:**

Dr. Tamilia collaborated with Dr. George Chong from Department of Pathology to apply genetic mutation analysis in the diagnosis of thyroid nodules and with Dr. Mark Trifiro and Dr. Elliot Mittmaker to characterize gene mutations in stored thyroid tumor specimens. Dr. Tamilia is developing the Thyroid Cancer Program in association with Head and Neck Oncology for McGill University.

The JGH Division of Endocrinology participates in the quarterly combined Endo Rounds held by the McGill Endocrine Division.

5. **Milestones:**

An exercise program has been established and maintained for diabetic patients with a Kinesotherapist, Maxime Lavoie. This program has proven itself to be of tremendous assistance in helping patients keep active and thereby control their glucose levels. A part-time Clinical Research Nurse was hired to aid with the seven (7) clinical studies conducted at the new treatment center. There have been no changes in medical staffing over the past year.

6. **Honours, awards, and prizes:**

- Joyce Arsenault, Nurse, CDE, JGH Department of Nursing 2012 Excellence in Nursing Community Service award.
- Sondra Sherman, Registered dietitian, Winner JGH Award for Excellence Among Allied Health Professionals
- Evelyn Herzog, a JGH volunteer, was honored as CJAD hero for her dedication and commitment to helping others with utter selflessness and as an inspiration to others.

7. **Fundraising:** None

**SECTION I - DIVISION STATUS UPDATE**
1. **Mission and objectives of the Division**

The Division of Endocrinology and Metabolism has continued its pursuit of excellence in patient care, research and training. The Division has continued to play an active role in joint activities with the other McGill Hospitals counterparts, such as Med-I Endocrine Physiology Course and Calcium Homeostasis, as well as hosting the Thyroid McGill Lectureship.

Dr. Tamilia’s other major objective was to develop the Thyroid Cancer Program in association with Head and Neck Oncology for McGill University at the Jewish General Hospital, as well as to expand and update teaching material for the three levels of trainees (students, residents and fellows).

Other objectives include the expansion of both clinical research and basic research personnel that will start in the next few years. This will be a very arduous task given the many roadblocks at the university, government and hospital level; however the Division remains confident that when the right recruits come along, it will find the mechanisms to have them join its staff.

2. **A nominative list of academic staff, their academic rank**

Dr. Mark A. Trifiro - Chief, Professor (GFT-U)
Dr. Peter Assimakopoulos - Associate Professor (GFT-H)
Dr. Stavroula Christopoulos - Assistant Professor (GFT-H)
Dr. Tina Kader – Associate Professor (GFT-H)
Dr. Andrew Karaplis  -  Professor (GFT-U)
Dr. Agnieszka Majdan - Assistant Professor (GFT-H)
Dr. John Brent Richards - Assistant Professor (GFT-U)
Dr. Alicia Schiffrin - Professor (GFT-U)
Dr. Morris Schweitzer - Associate Professor (GFT-H)
Dr. Michael Tamilia - Associate Professor (GFT-H)
Dr. Marvin Clamen - Faculty Lecturer (P/T)
Dr. Lilian Jukier - Adjunct Professor (P/T)
Dr. Arturo Rizzo - Assistant Professor (P/T)
Lenore Beitel, PhD - Assistant Professor

**SECTION II - GRANTS, PUBLICATIONS, AND SERVICE OUTSIDE OF McGill**

1. **Grants and awards received**

**J. Brent Richards**


-2009-2014: Canadian Institutes of Health Research, Operating Grant. Canadian Longitudinal Study on Aging. Role: Co-Investigator. $23,500,000 over 5 years.


-2012-2016: Canadian Institutes of Health Research (CIHR): Pinpointing Causal Variants for Osteoporosis. Role: Nominated Principal Investigator (Co-PI: Tomi Pastinen). $816,608 over 4 years. This grant ranked first for the CIHR Genetics panel.


-2011-2013: Canadian Cancer Society Research Institute. Effects of metformin on colorectal epithelial cell proliferation. Role: Co-Investigator. $195,000 over 2 years.

-2011-2016: Canadian Institutes of Health Research (CIHR). Canadian Multicentre Osteoporosis Study. Role: Co-Applicant. $3,422,052 over 5 years

**Mark A. Trifiro**

-2010-2015: Canadian Institutes of Health Research (CIHR) Innovative approaches to functional characterization of the androgen receptor in prostate cancer; P.I. Mark Trifiro, Co-Applicants: Miltiadis Paliouras and Edwin Wang; Operating Grant: total $560,279


-2009-2012: “Nanoporous silicon catheter device with real-time optical monitoring of bacterial contaminants during hemodialysis”; Canadian Institute for Photonics Innovation (CIPI), $29,900 total

**2012 Pharmaceutical Research Studies:**

The 7 studies included: one Phase II interdepartmental trial involving Endocrinology, Gastroenterology and Oncology; Two Phase III trials; three Phase IV trials including one sponsored by the CIHR; and one in-house study conducted by one of our Endocrinologists. In addition, we also did some dynamic testing, and insulin pump starts.


CIHR IV MITY- Metformin in Women with T2DM in Pregnancy Trial Ongoing. Principal Investigator: T. Kader

In house Insulin Therapy in T2DM-, study to evaluate insulin response at different c-peptide levels Concluded 2012. Principal Investigator: T. Kader

CCSRI II EMCP 2011-1 Effects of Metformin on colon proliferation Ongoing. Principal Investigator: M. Pollack, Subinvestigators: M. Trifiro, J.B. Richards

Amgen IV Protocol 2010128- Prolia Ongoing. Principal Investigator: A. Karaplis


2. Scholarly works published in the 2012 calendar year:

Karaplis, Andrew

--Panda DK, Goltzman D, Karaplis AC. Defective postnatal endochondral bone development by chondrocyte-specific targeted expression of parathyroid hormone type 2 receptor. Am J Physiol Endocrinol Metab. 2012 Dec 15;303(12):E1489-501

--Karaplis AC, Bai X, Falet JP, Macica CM. Mineralizing enthesopathy is a common feature of renal phosphate-wasting disorders attributed to FGF23 and is exacerbated by standard therapy in Hyp mice. Endocrinology. 2012 Dec;153(12):5906-17


Richards, J. Brent


Trifiro, Mark

3. **Academic and community engagement service outside of McGill by individual members of the unit**

Members of the Division continue to serve in committees of granting agencies, editorial boards and to participate in other high level academic activities at national and international levels. Members have succeeded in the competing renewal of their grants as well as in obtaining additional support from peer-reviewed granting agencies.

**SECTION III - CONFIDENTIAL INFORMATION**

1. **Consulting activities:** None reported

Submitted by:

Mark Trifiro, MD  
Chief, Division of Endocrinology