Annual Report

Division of Endocrinology Department of Medicine - Jewish General Hospital January 1 - December 31, 2017

SUMMARY

Introduction

The Division of Endocrinology and Metabolism has continued its pursuit of excellence in patient care, research and training.

Clinical Activities:

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 per year exceeded the 26,300. Outpatient clinics are run daily around the week by GFT's. Non-GFT's run outside the hospital at several locations. We also have established a triage system to see first those patients in most urgent need (e.g. decompensated diabetics, thyrotoxic patients). We have been limited by secretarial time available, which has not increased in over 7 years in spite the doubling of the numbers of patient visits. Although all staff physicians see patients spanning the whole spectrum of endocrine and metabolic diseases, some clinics are focused on a particular condition.

In-patient activities are centered on the Endocrine Consulting Service, attended by our staff physicians in a 2-week rotating schedule through the year. The endocrine service is largely covered by 9 of the 11 GFT's, including the physician scientists- with a minimum of 6 weeks per year. Volume of consults is approximately 2205/year. 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.

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.

Outpatient Clinics:

Monday AM: Diabetic Clinic (Kader); General Endocrinology (Karaplis, Trifiro, Schweitzer) Monday PM: General Endocrinology (Karaplis, Trifiro, Assimakopoulos)

Tuesday AM: Thyroid (Tamilia); General Endocrinology (Assimakopoulos, Christopoulos, Kader, Schiffrin, Karaplis), Gestational Diabetic, Pav. H (Majdan)

Tuesday PM: General Endocrinology (Assimakopoulos, Schiffrin, Richards), Thyroid (Tamilia)

Wednesday AM: General Endocrinology (Majdan, Tamilia, Schweitzer); Osteoporosis (Karaplis); Gestational Diabetic, Pav. H (Kader)

Wednesday PM: General Endocrinology (Richards, Majdan, Tamilia); Lipid Clinic (Schweitzer)

Thursday AM: General Endocrinology (Schiffrin, Tamilia, Christopoulos, Assimakopoulos, Majdan, Kader);

Thursday PM: General Endocrinology (Schiffrin Assimakopoulos, Schweitzer, Yu, Tamilia, Kader)

Friday AM: General Endocrinology (Schweitzer, Trifiro, Christopoulos, Majdan, Yu)

Friday PM: General Endocrinology (Trifiro, Yu)

Out Patient Clinic Half days per week Assimakopoulos 5 half days per week; Christopoulos 4-5 half days per week; 3 half days per week Kader 3 half days per week **Karaplis** 5 half days per week Maidan Richards 2 half days per week 4 half days per week Schiffrin Schweitzer 5 half days per week 9 half days per week Tamilia Trifiro 4 half days per week 3 to 4 half days per week Yu

1. Research and publications:

Research projects and publications are listed under Section II. Research activities and publications continue on the rise (see individual reports for details).

2. Teaching and learning (undergraduate and graduate):

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 Lipid-, Thyroid McGill Lectureships.

Our members continue to teach in McGill Graduate and Undergraduate courses such as Physiology, Advanced Endocrinology and Neuroendocrinology.

Dr. Christopoulos developed a tool validated by Diabetes Quebec for diabetes sick day management.

Dr. Michael Tamilia has continued to receive the recognition of our young colleagues and students as a truly exceptional teacher. Drs. Tina Kader, Peter Assimakopoulos, Stavroula Christopoulos and Morris Schweitzer continue to be remarkably active in CME activities primarily addressed to general practitioners, internists and specialists.

Overall, the Division of Endocrinology is one of the most active in contributing its staff to teaching (Professional Skills and Introduction to Internal Medicine and Physiology), Clinical Teaching Unit (CTU) and Consult Service coverage within the Department of Medicine at the Jewish General Hospital:

Clinical Teaching Unit (CTU) Weeks per year

Christopoulos 2 weeks
Karaplis 4 weeks
Majdan 4 weeks
Tamilia 8 weeks
Trifiro 4 weeks

Consult Service Weeks per year

Assimakopoulos 5 weeks Christopoulos 8 weeks **Karaplis** 4 weeks Majdan 6 weeks Richards 6 weeks Tamilia 8 weeks Trifiro 10 weeks Yu 6 weeks Kader 2 weeks

Research Trainees Supervision

Kader: Master's student for project presented at Canadian Diabetes Association

Karaplis: In Collaboration with Dr. Mark Lipman, supervised postdoctoral fellows: Drs. Xiuying Bai, Dibeyendu Panda and Hans Christian Zaun

Richards: Postdoctoral fellow: Stephanie Ross;

PhD students: John Morris (Human Genetics), Despoina Manousaki (Human Genetics)

and Agustin Cerani (Epidemiology);

MSc students: Lauren Mokry (Epidemiology);

Clinical Fellows: Omar Ahmad (Internal Medicine) and Tricia Peters (Endocrinology)

Undergraduate: Julyan Baruch

Tamilia: 2 Endocrine Residents - Endocrine Tumour Research

Trifiro: 2 MSc students; 1 PhD student

Medical Students

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

Residents

- (i) Core lectures in Endocrinology
- (ii) Simulated oral examination in Internal Medicine

Postgraduate Students

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 and patients in Emergency. Some clinics are compulsory: Gestational Diabetes, Thyroid, Lipid and Diabetes Clinic. 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). In addition to McGill Medical Students doing elective rotations, we have received students from Germany 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. Our weakest mark is on premises and facilities for Endocrine Residents.

In addition to these tutorial activities, our Division 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 members being small group tutors this year (Assimakopoulos, Kader, Karaplis, Majdan, Schiffrin, and Trifiro). All GFTs' 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 the prevention of obesity and diabetes. Ms. Joyce Arsenault (Nurse, Certified Diabetes Educator), Ms. Laura Bergmame (Nurse, Certified, Diabetes Educator) and Ms. Sondra Sherman (Dietitian, Certified Diabetes Educator) have worked together with Dr. Tina Kader in this latter endeavor.

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. Endocrine Grand Rounds are given weekly on Thursdays from September to June.

3. Involvement in the community:

Both Laura Bergmame (Nurse) and Sondra Sherman (Dietitian) participated in the JDRF (Juvenile Diabetes Research Foundation) TELUS Walk to Cure Diabetes in 2017.

Sondra Sherman is member of national Executive Marketing Committee and Co-Chair of Montreal Diabetes Education Chapter of Diabetes Canada. She Co-Chaired November 12, 2017 Diabetes GPS Conference, first of its kind in Montreal, for patients with Type I and II diabetes at Ruby Foo's Hotel

In April-May2017 Sondra Sherman was a guest speaker at diabetes chapter in Nova Scotia and New Brunswick

4. Partnerships:

Dr. Trifiro and Dr. Tamilia are collaborating in redeveloping new and novel therapeutics in the treatment of thyroid cancer both early stage and late stage disease. This research uses nanotechnology therapeutics developed in Dr. Trifiro's laboratory; specifically it incorporates multiwall carbon nanotubes decorated with anti TSH receptor antibodies or recombinant TSH to direct the nanotubes to a thyroid cell surface. Once targeted simple near infra-red exposure triggers significant heat generation between the nanoparticles to destroy cells. This work is ongoing.

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

- 5. Milestones: None reported
- **6.** New hires: V. Larouche (starts July 2019), T. Peters (starts October 2018)
- 7. Honours, awards, and prizes:
- **Dr. J. Brent Richards** was elected to the American Society of Clinical Investigation.
- **Dr. J. Brent Richards** was one of two Canadians who were elected as a member of the American Society of Clinical Investigations. "The ASCI is an honor society of physician-scientists, those who translate findings in the laboratory to the advancement of clinical practice.
- **Dr. J. Brent Richards** was elected to the Royal Society of Canada College of New Scholars, Artists and Scientists. Dr. Richards studies the genetic determinants of common, aging-related endocrine diseases, and the ways in which these findings can be applied to improving clinical care.
- **Dr. O. Yu** is co-applicant Incretin-based Drugs and the Risk of Adverse Renal Outcomes Funding Sources: 2016/3-2018/3 Canadian Institutes of Health Research (CIHR)
- **Dr. O. Yu** was awarded the Clinical Research Award by the Department of Medicine at the Jewish General Hospital (March 2017-April 2019)

Ms. Sondra Sherman, Dietitian received the Canadian Diabetes Association 2016-2017 Diabetes Educator of the Year Award.

8. Fundraising: None Reported

SECTION I - DIVISION STATUS UPDATE

1. Mission and objectives of the Division

The division continues to place a high priority on patient care and in doing so seeks new clinical recruits either as full-time or as part time members.

Other priorities include the expansion of both clinical research and basic research personnel. 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 Associate Professor (GFT-U)
- Dr. Alicia Schiffrin Professor (GFT-U)
- Dr. Morris Schweitzer Associate Professor (GFT-H)
- Dr. Michael Tamilia Associate Professor (GFT-H)
- Dr. Oriana Yu Assistant Professor (GFT-H)

SECTION II - GRANTS, PUBLICATIONS, AND SERVICE OUTSIDE OF McGILL

1. Grants and awards received

Morris Schweitzer

- Characterization of the PCSK9 gene and structure/function analysis of the PCSK9 protein in a family with very low LDL-cholesterol Pfizer
- 2) Impact of PCSK9 neutralizing antibodies on hepatic steatosis in a mouse model Department of medicine

Oriana Yu

1) 2016/3 - 2018/3 Canadian Institutes of Health Research (CIHR)

Co-applicant Incretin-based Drugs and the Risk of Adverse Renal Outcomes; Total Funding - 215,000 (Canadian dollar)

Mark Trifiro

1) 2016/7 - 2018/6: **Canada Genome Grant** - Phase 1 PI: Mark Trifiro

Brent Richards

1) 2016-2017 **National Institute of Health (NIH)**. Molecular Genetic Studies of von

Willebrand Factor. PI: David Ginsburg. **Role: co-investigator**. \$1,540, 203 USD. Amount received: \$15,552 USD.

- 2) 2016-2023 Canadian Institutes of Health Research (CIHR) Foundation Grant.

 Declined. "Awarded for sustainable funding for health research leaders for innovative, high-impact research programs." Ranked in the top 2.5th percentile of 911 submissions. PI: Brent Richards. Collaborators: George Davey Smith, Douglas Kiel, Mark Lathrop, Matt Maurano, Fernando Rivadeneira, Philippe Sanseau, Stephen Sawcer, Nicole Soranzo, Nicolas Timpson, Cheryl Ackert-Bicknell. \$1.89M over 7 years.
- 3) 2016-2019 Canadian Institutes of Health Research (CIHR) Progam Grant. Causal Proteins for Osteoporosis. PI: Brent Richards. Collaborators: David Goltzman, Elin Grundberg, Cheryl Ackert-Bicknell, Celia Greenwood. \$1.12M over 3 years.
- 4) 2016-2018 Merck, Sharpe & Dohme/McGill Faculty of Medicine Grants for Translational Research. Role: Glucose-Independent Mechanism for Coronary Heart Disease in Type 2 Diabetes: An Epigenetic Study. PI: Brent Richards. Collaborator: Elin Grunberg, Mark Eisenberg. \$200,000 over 2 years.
- 5) 2016-2018 Multiple Sclerosis Society of Canada + National Multiple Sclerosis
 Society (co-funded). The association between BMI and EBV with the risk of
 MS: A Mendelian randomization analysis. PI: Brent Richards.
 Collaborators: George Davey Smith, Stephen Sawcer, Approx. \$168,488.93
 over two years.
- 6) 2015-2017 **Eli Lilly, Lilly Research Award Program.** Somatic Mutations: A Disruptive Paradigm for Identifying Driver Mutations in Autoimmunity. **PI: Brent Richards.** Peer-reviewed, investigator-led grant. 393,805 over 2 years.
- 2. Scholarly works published in the 2017 calendar year:

Brent Richards

- 1) Ahmad OS, Leong A, Miller JA, Morris JA, Forgetta V, Mujammami M, **Richards JB** (2017). A Mendelian Randomization Study of the Effect of Type-2 Diabetes and Glycemic Traits on Bone Mineral Density. J Bone Miner Res [IF: 6.2]. 32(5):1072-1081. doi: 10.1002/jbmr.3063
- 2) Heilmann-Heimbach S, Herold C, Hochfeld LM, Hillmer AM, Nyholt DR, Hecker J, Javed A, Chew EG, Pechlivanis S, Drichel D, Heng XT, Del Rosario RC, Fier HL, Paus R, Rueedi R, Galesloot TE, Moebus S, Anhalt T, Prabhakar S, Li R, Kanoni S, Papanikolaou G, Kutalik Z, Deloukas P, Philpott MP, Waeber G, Spector TD, Vollenweider P, Kiemeney LA, Dedoussis G, Richards JB, Nothnagel M, Martin NG, Becker T, Hinds DA, Nöthen MM (2017). Meta-analysis identifies novel risk loci and yields systematic insights into the

- biology of male-pattern baldness. Nat Commun [IF: 11.5]. 8:14694. doi: 10.1038/ncomms14694
- 3) Hivert MF, Scholtens DM, Allard C, Nodzenski M, Bouchard L, Brisson D, Lowe LP, McDowell I, Reddy T, Dastani Z, **Richards JB**, Hayes MG, Lowe WL Jr. (2017). Genetic determinants of adiponectin regulation revealed by pregnancy. Obesity (Silver Spring) [IF: 4.389]. 25(5):935-944. doi: 10.1002/oby.21805
- 4) Kemp JP, Morris JA, Medina-Gomez C, Forgetta V, Warrington NM, Youlten SE, Zheng J, Gregson CL, Grundberg E, Trajanoska K, Logan JG, Pollard AS, Sparks PC, Ghirardello EJ, Allen R, Leitch VD, Butterfield NC, Komla-Ebri DSK, Adoum A-T, Curry KF, White JK, Kussy F, Greenlaw KM, Xu C, Harvey NC, Cooper C, Adams DJ, Greenwood CMT, Maurano MT, Kaptoge S, Rivadeneira F, Tobias JH, Croucher PI, Ackert-Bicknell CL, Bassett JHD, Williams GR, Richards JB†, Evans DM† (2017). Genome-wide Association Study of Heel Bone Mineral Density Identifies 153 Novel Loci and Implicates Functional Involvement of GPC6 in Osteoporosis. Nature Genetics [IF: 28.0]. 49(10):1468-1475. doi: 10.1038/ng.3949
- 5) Larsson SC, Singleton AB, Nalls MA, **Richards JB**; International Parkinson's Disease Genomics Consortium (IPDGC) (2017). No clear support for a role for vitamin D in Parkinson's disease: A Mendelian randomization study. Mov Disord [IF: 5.68]. 32(8):1249-1252. doi: 10.1002/mds.27069
- 6) Manousaki D, Dudding T, Haworth S, Hsu YH, Liu CT, Medina-Gómez C, Voortman T, van der Velde N, Melhus H, Robinson-Cohen C, Cousminer DL, Nethander M, Vandenput L, Noordam R, Forgetta V, Greenwood CMT, Biggs ML, Psaty BM, Rotter JI, Zemel BS, Mitchell JA, Taylor B, Lorentzon M, Karlsson M, Jaddoe VVW, Tiemeier H, Campos-Obando N, Franco OH, Utterlinden AG, Broer L, van Schoor NM, Ham AC, Arfan Ikram M, Karasik D, de Mutsert R, Rosendaal FR, den Heijer M, Wang TJ, Lind L†, Orwoll ES†, Mook-Kanamori DO†, Michaëlsson K†, Kestenbaum B†, Ohlsson C†, Mellström D†, de Groot LCPGM †, Grant SFA†, Kiel DP†, Zillikens MC†, Rivadeneira F†, Sawcer S†, Timpson NJ†, and Richards JB† (2017). Low Frequency Synonymous Coding Variation in CYP2R1 has Large Effects on Vitamin D Level and Risk of Multiple Sclerosis. American Journal of Human Genetics [IF: 9.0]. 101(2):227-238. doi: 10.1016/j.ajhg.2017.06
- 7) Manousaki D, Paternoster L, Standl M, Moffatt MF, Farrall M, Bouzigon E, Strachan DP, Demenais F, Lathrop M, Cookson WOCM, **Richards JB** (2017). Vitamin D levels and susceptibility to asthma, elevated immunoglobulin E levels, and atopic dermatitis: A Mendelian randomization study. PLOS Medicine [IF: 13.585]. 14(5):e1002294. doi: 10.1371/journal.pmed.1002294
- 8) Morris JA, Tsai PC, Joehanes R, Zheng J, Trajanoska K, Soerensen M, Forgetta V, Castillo-Fernandez JE, Frost M, Spector TD, Christensen K, Christiansen L, Rivadeneira F, Tobias JH, Evans DM, Kiel DP, Hsu YH, **Richards JB**, Bell JT (2017). Epigenome-wide association of DNA methylation in whole blood with bone mineral density. J Bone Miner Res [IF: 5.622]. 32(8):1644-1650. doi: 10.1002/jbmr.3148

- 9) Mullin BH, Zhao JH, Brown SJ, Perry JRB, Luan J, Zheng H-F, Langenberg C, Dudbridge F, Scott R, Wareham NJ, Spector TD, **Richards JB**[†], Walsh JP[†], Wilson SG[†] (2017). Genome-wide association study meta-analysis for quantitative ultrasound parameters of bone identifies five novel loci for broadband ultrasound attenuation. Human Molecular Genetics [IF: 5.985]. 26(14):2791-2802. doi: 10.1093/hmg/ddx174
- 10) Timpson N, Greenwood C, Soranzo N, Lawson DJ, **Richards JB**. Genetic architecture: The shape of genetic contribution to human traits and disease. Nature Reviews Genetics [IF: 31.4]. Epub ahead of print 2017 Dec 11. doi: 10.1038/nrg.2017.101

Andrew Karaplis

- 1) Okumura K, Saito M, Yoshizawa Y, Munakata H, Isogai E, Miura I, Wakana S, Yamaguchi M, Shitara H, Taya C, **Karaplis** AC, Kominami R, Wakabayashi Y. The parathyroid hormone regulates skin tumour susceptibility in mice. Sci Rep. 2017 Sep 11;7(1):11208. doi: 10.1038/s41598-017-11561
- 2) Saag KG, Petersen J, Brandi ML, **Karaplis** AC, Lorentzon M, Thomas T, Maddox J, Fan M, Meisner PD, Grauer A. Romosozumab or Alendronate for Fracture Prevention in Women with Osteoporosis. N Engl J Med. 2017 Oct 12;377(15):1417-1427. doi: 10.1056/NEJM oa1708322. Epub 2017 Sep 11
- 3) Radi S, **Karaplis** AC. A Case of Male Osteoporosis: A 37-Year-Old Man with Multiple Vertebral Compression Fractures. Case Rep Endocrinol. 2017;2017:6328524. doi: 10.1155/2017/6328524. Epub 2017 Jul 16
- 4) Ma Y, Kirby BJ, Fairbridge NA, **Karaplis** AC, Lanske B, Kovacs CS. FGF23 Is Not Required to Regulate Fetal Phosphorus Metabolism but Exerts Effects Within 12 Hours After Birth. Endocrinology. 2017 Feb 1;158(2):252-263. doi: 10.1210/en.2016-1369
- 5) Nguyen-Yamamoto L, **Karaplis** AC, St-Arnaud R, Goltzman D. Fibroblast Growth Factor 23 Regulation by Systemic and Local Osteoblast-Synthesized 1,25-Dihydroxyvitamin D. J Am Soc Nephrol. 2017 Feb;28(2):586-597. doi: 10.1681/ASN.2016010066. Epub 2016 Aug 17

Michael Tamilia

- 1) Mujammami M, **Tamilia M**. Response to Tulchinsky and Avram re: "Long-Term Outcomes of Patients with Papillary Thyroid Cancer Undergoing Remnant Ablation with 30 Millicurie Radioiodine". Thyroid. 2017 Apr;27(4):592.
- 2) Henry M, Frenkiel S, Chartier G, MacDonald C, Payne RJ, Black MJ, Mlynarek AM, Zeitouni A, Kost K, Loiselle C, Ehrler A, Rosberger Z, **Tamilia M**, Chang YX, de la Mora C, Arbaud C, Hier MP. Thyroid cancer patients receiving an interdisciplinary team-based care approach (ITCA-ThyCa) appear to display better outcomes: Program evaluation results indicating a need for further integrated care and support. Psychooncology. 2017 Nov 25.doi10.1002/pon.4590.

- 3) Karls S, Abikhzer G, **Tamilia M**, Probst S. Interrupted 131I Procedures for Patients With Differentiated Thyroid Cancer: Comparing Thyroxine Withdrawal With Recombinant Thyrotropin Preparation Techniques. Clin Nucl Med. 2017 Apr;42(4):247-249.
- 4) Kay-Rivest E, Tibbo J, Bouhabel S, **Tamilia M**, Leboeuf R, Forest VI, Hier MP, Savoury L, Payne RJ. The first Canadian experience with the Afirma® gene expression classifier test. J Otolaryngol Head Neck Surg. 2017 Apr 4;46(1):25.
- 5) Larouche V, **Tamilia M**. Cytomegalovirus-mononucleosis-induced thyroiditis in an immunocompetent patient. Endocrinol Diabetes Metab Case Rep. 2017 Nov 24;2017. pii: 17-0142. doi: 10.1530/EDM-17-0142. eCollection 2017.
- 6) Lee SS, Roche PJ, Giannopoulos PN, Mitmaker EJ, **Tamilia M**, Paliouras M, Trifiro MA. Prostate-specific membrane antigen-directed nanoparticle targeting for extreme nearfield ablation of prostate cancer cells. Tumour Biol. 2017 Mar;39(3):1010428317695943. doi:
- 7) Sasson M, Kay-Rivest E, Shoukrun R, Florea A, Hier M, Forest VI, **Tamilia M**, Payne RJ. The T4/T3 quotient as a risk factor for differentiated thyroid cancer: a case control study. J Otolaryngol Head Neck Surg. 2017 Apr 4;46(1):28.

Mark Trifiro

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Majdan, Agnieszka

1) Wu JW, Azoulay L, **Majdan A**, Boivin JF, Pollak M, **Suissa S**. Long-Term Use of Long-Acting Insulin Analogs and Breast Cancer Incidence in Women With Type 2 Diabetes. J Clin Oncol. 2017 Nov 10;35(32):3647-3653

Yu, Oriana

- 1) Gómez-Izquierdo JC and **Yu OHY**. The influence of proton-pump inhibitors on glycemic control: a systematic review of the literature and meta-analysis. Canadian Journal of Diabetes 2017, 41(4):351-361
- 2) **Yu OHY**, **Richards B**, Berger C, Josse RG, Leslie WD, Goltzman D, Kaiser SM, Kovacs CS and Davison KS. The association between sclerostin and incident type 2 diabetes risk: a cohort study. Clinical Endocrinology 2017, 86(4): 520-525
- 3) Abrahami D, Yin H, **Yu OHY**, Pollak MN, Azoulay L. Incretin-based drugs and the incidence of colorectal cancer in patients with type 2 diabetes: population-based cohort study. Epidemiology. 2017 Dec 26. doi: 10.1097/EDE.0000000000000793. [Epub ahead of print] PMID: 29283894

- 4) Douros A, Yin H, **Yu OHY**, Filion KB, Azoulay L1, Suissa S. Pharmacologic differences of sulfonylureas and the risk of adverse cardiovascular and hypoglycemic events. Diabetes Care 2017, 40(11):1506-1513
- 5) Loo SY, Chen BY, **Yu OHY**, Azoulay L, Renoux C. Testosterone replacement therapy and the risk of stroke in men: a systematic review. Maturitas 2017, 106:31-37
- 7) **Yu OH**, Azoulay L, Yin H, **Filion KB**, Suissa S. Sulfonylureas as initial treatment for type 2 diabetes and the risk of severe hypoglycemia. Am J Med. 2017 Oct 12. pii: S0002-9343(17)31030-6. doi: 10.1016/j.amjmed.2017.09.044.

Submitted by:

Mark Trifiro, MD Chief, Division of Endocrinology