Focus on Faculty #19
Laurent Azoulay

Dr. Laurent Azoulay is an Associate Professor in the Department of Epidemiology, Biostatistics and Occupational Health and Gerald Bronfman Department of Oncology, McGill University. After receiving his PhD in 2007 from the Université de Montréal, he completed a post-doctoral fellowship in pharmacoepidemiology in the Department of Epidemiology, Biostatistics and Occupational Health at McGill University. He then joined the Gerald Bronfman Department of Oncology as an Assistant Professor in 2009. In 2016, he was promoted to the rank of Associate Professor with a cross-appointment with the Department of Epidemiology, Biostatistics and Occupational Health.

His research program in cancer pharmacoepidemiology aims to provide much needed information on the long-term effects of commonly-prescribed drugs on the incidence of cancer, while also assessing the safety of cancer treatments in the real-world setting. Indeed, there is a need for observational studies in the post-approval setting. While trials are considered the gold standard for the assessment of drug efficacy, they are not suitable to assess cancer outcomes as safety endpoints. This is because often for ethical or logistical reasons, patients with cancer are excluded from trials. Furthermore, because cancers are rare events developing over many years, most trials are not designed or powered to evaluate these adverse events. Thus, the long-term effects of prescription drugs on the incidence of cancer are largely unknown when they enter the market. Similarly, trials of cancer treatments are not designed to assess uncommon yet important adverse events, mainly because of their smaller sample sizes and short durations of follow-up.

Over the years, Dr. Azoulay developed a strong interest in the potential effects of anti-diabetic drugs on the development of cancer. Examples include studies assessing the association between pioglitazone (a drug belonging to the thiazolidinedione class) and the risk of bladder cancer, and

more recently, the association between newer antidiabetic agents (such as incretin-based drugs) and their association with pancreatic and breast cancer. With respect to the safety of cancer treatments, he has been particularly interested in the pleiotropic effects of androgen deprivation therapy, a common treatment used in advanced prostate cancer. Indeed, androgens are known to have various physiological roles, and thus significantly lowering their levels with androgen deprivation therapy may lead to deleterious, but also unintended beneficial effects. His research team has conducted several studies assessing the safety of this therapy, including its association with ischemic stroke and venous thromboembolism. They also tested several novel hypotheses, including the role of androgen deprivation therapy on the incidence of acute kidney injury and inflammatory bowel disease.

Outside work, Dr. Azoulay enjoys spending quality time with his wife and four children.

We asked Dr. Azoulay to list a few of his articles whose work he is particularly proud or enjoyed the most. This is what he provided:

Hicks BM, Yin H, Yu OH, Pollak MN, Platt RW, **Azoulay L**. Glucagon-like peptide-1 analogues and risk of breast cancer in women with type 2 diabetes: population based cohort study using the UK Clinical Practice Research Datalink. BMJ 2016 355:i5340.

Tuccori M, Filion KB, Yin H, Yu OH, Platt RW, **Azoulay L**. Pioglitazone use and bladder cancer risk: a population-based cohort study. BMJ 2016 30;352:i1541.

Filion KB, **Azoulay L**, Platt RW, Dahl M, Dormuth CR, Clemens KK, Hu N, Paterson JM, Targownik L, Turin TC, Udell JA, Ernst P, and the CNODES Investigators. A multi-center observational study of incretin-based drugs and the risk of heart failure. N Engl J Med 2016 24;374(12):1145-54.

Azoulay L, Filion KB, Platt RW, Dahl M, Dormuth CR, Clemens KK, Durand M, Juurlink DN, Targownik LE, Turin TC, Paterson JM, Ernst P; Canadian Network for Observational Drug Effect Studies Investigators. Incretin based drugs and the risk of pancreatic cancer: international multicentre cohort study. BMJ 2016 17;352:i581