Survival analysis in the presence of competing risks: the example of wait-listed kidney transplant candidates

Monday, 15 February 2016
4:00 pm - 5:00 pm – McIntyre Medical Building
3655 promenade Sir William Osler – Meakins – Rm 521

ALL ARE WELCOME

SYNOPSIS:
Competing events, which preclude the observation of an event of interest or alter the probability of the event’s occurrence, are commonly encountered in transplant outcomes research. In analysis of time-to-event data, competing events may be censored or incorporated into composite endpoints. However, the presence of competing events violates the assumption of “independent censoring” which is the basis of standard survival analysis. The use of composite endpoints disregards the possibility that competing events may be related to the exposure in a way that is different from the other components of the composite. Using data from the Scientific Registry of Transplant Recipients, we will compare the risk of mortality in sensitized (vs. non-sensitized) wait-listed kidney transplant candidates when using standard survival analysis models versus subdistribution hazards models (which account for competing risks).

OBJECTIVES:
1) To review the principles of competing risk analysis
2) To outline approaches for analyzing data with competing events (cause-specific hazard and subdistribution hazards models)
3) To discuss the appropriate settings in which each of the two approaches could be used and contrast their interpretation.

BIO:
Dr. Ruth Sapir-Pichhadze is a clinician scientist and a transplant nephrologist at McGill University Health Centre. She completed training in General Internal Medicine, Nephrology, and Kidney Transplantation at the University of Toronto. Thereafter, she enrolled in the Eliot Phillipson Clinician Scientist Training Program and received a PhD in Clinical Epidemiology and Health Care Research at the Institute of Health Policy, Management and Evaluation at the University of Toronto. Dr. Sapir-Pichhadze's research focuses on the application of personalized medicine strategies for the prevention of immune-mediated injuries. Specifically, she is interested in identifying genetic determinants of donor and recipient compatibility in an effort to optimize organ allocation schemes, inform personalized surveillance schedules, and establish individually tailored therapeutic regimens in kidney transplant candidates and recipients. In recognition of her efforts, Dr. Sapir-Pichhadze has been recently awarded the prestigious KRESCENT-CIHR New Investigator Award.

www.mcgill.ca/epi-biostat-occh/news-events/seminars/epidemiology