# Oral Paper Session #2
## Moderator: Nancy Vasil
### 31) Medical Morbidity and Mortality after Electroconvulsive Therapy in a Population-Based Sample – Julia Kirkham
- Objectives: At the end of this session, attendees will:
  1. describe rates of ECT-related morbidity and mortality;
  2. describe the most common major adverse medical events associated with ECT; and
  3. identify patient characteristics associated with increased risk of ECT-related morbidity and mortality.

### 32) Delirium and Future Health Care Use in Older Emergency Department Patients – Aliya Ramjaun
- Objectives: At the end of this session, attendees will:
  1. understand the relationship between delirium and other age-specific risk factors;
  2. learn incidence of delirium amongst seniors in the emergency department; and
  3. discuss the relationship between delirium and future health care use.

### 26) The Relationships Between Vascular Risk, Cognition and Outcome in Late-Life Psychotic Depression – Kathleen Bingham
- Objectives: At the end of this session, attendees will:
  1. describe the relation between vascular risk and outcome in late-life psychotic depression;
  2. describe the relation between cognition and outcome in late-life depression; and
  3. understand how to use a brief clinical tool to predict outcome in late-life psychotic depression.
The efficacy of electroconvulsive therapy (ECT) is well established for a number of psychiatric conditions but information on major medical morbidity and mortality related to ECT is scarce. We examined the incidence of medical adverse events and mortality among individuals receiving ECT and identified predictors of these outcomes.

We undertook a population-level cohort study using administrative healthcare databases for patients undergoing a new course of ECT in Ontario between 2003 and 2011. We determined the event rate for all-cause mortality and a composite outcome including 10 specific medical outcomes during and up to 7 and 30 days from the acute ECT course. We used logistic regression to arrive at odds ratios (OR) and 95% confidence intervals for participant characteristics that were independent risk factors for one or more of these adverse outcomes.

A total of 8,810 unique individuals received an acute course of ECT, corresponding to 135,831 treatments. The all-cause mortality rate was 2.4 per 10,000 treatments at the 7-day endpoint and 4.8 per 10,000 treatments at the 30-day endpoint. The rate of adverse medical events was 9.1 per 10,000 treatments and 16.8 per 10,000 treatments for the 7 and 30-day end-points, respectively. Independent predictors of increased risk for medical morbidity were older age, higher ASA score, history of ischemic heart disease, and longer ECT duration.

Overall, our large, population-based study found that ECT is a relatively safe procedure. Certain patient populations are at higher risk for adverse events following ECT and may benefit from increased surveillance for medical complications.
Delirium and Future Health Care Use in Older Emergency Department Patients

Aliya Ramjaun

Failing to detect delirium in the emergency department (ED) independently predicts mortality within 6 months after discharge, and up to 76% of patients exhibiting symptoms of delirium go unrecognized. While risk factors and validated prediction models for delirium have been identified across medical, surgical, and intensive care populations, similar investigations regarding the implications of delirium have yet to be adequately explored in the ED.

A prospective cohort study was conducted, where delirium was assessed as part of an ED contact-assessment (ED-CA). Patients were followed-up for 90 days to determine frequency and dates of subsequent ED visits, hospitalizations, and discharge to alternate-level or long-term care (ALC/LTC). Associations between delirium and geriatric syndromes were assessed. A series of univariate logistic regressions were performed to quantify the impact of delirium on experiencing each outcome.

Out of 2,101 patients, 875 (42.60%) were discharged, and of these, 346 (39.54%) returned to the ED. 1,079 (52.53%) were admitted to hospital at the index ED visit, and 224 (10.91%) were discharged to ALC/LTC. 287 (14.12%) patients exhibited delirium symptoms. Nearly all ED-CA items demonstrated significant associations with delirium, with the exception of age, gender, past ED visits, trauma, pain and dyspnea. Delirium was also significantly predicted discharge to ALC/LTC (OR 2.15, 95% CI 1.23-3.77) and need for comprehensive geriatric assessment (CGA) (OR 1.73, 95% CI 1.11-2.70).

A number of associations exist between geriatric syndromes and delirium amongst older ED patients. Delirium may also be predictive of future healthcare needs such as ALC/LTC and CGA.
The Relationships between Vascular Risk, Cognition and Outcome in Late-Life Psychotic Depression

Kathleen Bingham, Ellen Whyte, Barnett Meyers, Anthony Rothschild, Samprit Banerjee, Alastair Flint

Executive dysfunction and processing speed have been associated with late-life depression (LLD) outcome and with cerebrovascular disease. However, there is mixed evidence directly linking vascular risk to LLD outcome. The aim of our study was to determine whether vascular risk, executive function, and/or processing speed are associated with outcome in late-life psychotic depression. Our hypotheses were: worse baseline executive function and processing speed would be independently associated with poorer treatment outcome; baseline vascular risk would be independently associated with poorer treatment outcome; and vascular risk would mediate the association between the cognition and outcome.

Our study is a secondary analysis of Study of Pharmacotherapy of Psychotic Depression, a 12-week randomized controlled trial. We analyzed data from 142 participants aged 60 years. Independent variables were baseline vascular risk (defined using Framingham Stroke Risk Score [FSRS]), baseline executive function (Stroop colour-word interference score), and baseline processing speed (colour and reading Stroop tasks). Our primary outcome measure was change in depression severity (17-item Hamilton Depression Rating Scale [HDRS]). The data were analyzed with mixed-effects models examining the relation of predictor variables with outcome.

Vascular risk was independently associated with change in HDRS score ($F = 9.91$, df = 1,791, $P = 0.0017$). Neither cognitive measure predicted outcome. Because we did not find a relation between cognition and outcome, we were unable to test for mediation.

Our results support the association between vascular disease and LLD outcome and confirm the use of the FSRS in predicting treatment response. We did not find that cognition predicted outcome. Possible explanations will be discussed.