

## PW01-10 - COLUMBIA UNIVERSITY LITHIUM ARCHIVES PROJECT: BRIDGING THE GAP FROM LABORATORY EVIDENCE TO CLINICAL FINDINGS

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**Objective:** Lithium has been used in the successful treatment of bipolar disorders since the 1950's. Advancements in neuroscience show that it has neuroprotective properties suggesting a possible efficacy in stroke, Alzheimer's and dementia. There is also evidence showing lithium protection of neurologic injury by changing GSK-3 inhibition in animals.

**Methods:** The Lithium Archives Project research design is a retrospective, random paper based chart review of patients with mood disorders. The charts are examined for over 100 variables including demographic, symptom, mood, biochemical, neurologic, and medical items. The current sample of over 700 charts was analyzed by a skilled statistician using standard SPSS statistical software. Mean, standard deviation and significance of cerebrovascular disease, myocardial infarction, brain tumors, stroke, seizures, and eye diseases of patients treated with lithium and patients treated without lithium were compared and analyzed. Multivariate analysis was performed to analyze group (lithium/no lithium) and incidence of disease. The means of disease incidence in the lithium versus non-lithium groups were then charted.

**Results:** The Multivariate Analysis of Variance of the current data shows that group is a significant variable in the incidence of diseases analyzed (Pillai's Trace  $F = 2.926$ ,  $df = 11,416$ ,  $p = .004$ ). The patients treated with lithium show less incidence of cerebrovascular disease ( $p = .053$ ), myocardial infarction ( $p = .012$ ), seizures ( $p = .091$ ), eye diseases ( $p = .011$ ), stroke ( $p = .014$ ) and brain tumors ( $p = .072$ ).

**Discussion:** The current analysis is very promising and indicates that in this patient population, lithium may have played a role in protection from these diseases.