

## **Episodic Hyponatremia is Associated with Increased Mortality in Hemodialysis Patients**

Ryan Brenneis (The King's University), Darcy Visscher\* (The King's University), and Branko Braam\* (University of Alberta)

### *Oral Presentation Abstract:*

**Introduction:** Hyponatremia is common in many patient populations and has been linked to increased mortality. Hyponatremia in hemodialysis (HD) patients is also common, yet, only cross-sectional analyses are available. The hypothesis of the current study was that not only persistent, but also episodic hyponatremia in HD patients is associated with increased mortality.

**Methods:** The prevalence of persistent and episodic (short duration (<3 months), high frequency ( $\geq 8$  episodes) and long duration (>3 months), low (1-3 episodes) and medium (4-7 episodes) frequency) patterns of hyponatremia (plasma Na < 135 mmol/L) was investigated in 2473 patients on in-center HD, using plasma Na levels determined monthly over a median of 4.6 years. Both persistent and episodic hyponatremia are linked to mortality.

**Results:** Normal sodium over the entire observations period was observed in 34% of patients, episodic short duration, high frequency in 9% of patients and long duration, low and medium frequency in 8% of patients. Both persistent hyponatremia and long duration, low/medium frequency were associated with decrease survival compared to patients without hyponatremia.

**Conclusion:** Our results suggest that episodic hyponatremia may be just as an important predictor of mortality as stable hyponatremia. This result further implies that a cross sectional analysis of hyponatremic patients undergoing hemodialysis may underestimate the risk associated with hyponatremia due to the potential for its episodic nature.

\* Indicates faculty mentor