Patients receiving maintenance hemodialysis (HD) are typically treated with 3 outpatient dialyses per week. Approximately 40-50% of HD sessions each month, and 20% of patients miss 1 session over 3 months. These missed dialysis sessions constitute to poor outcomes and are associated with increased mortality and morbidity, and may confer additional risk to patients with secondary hyperparathyroidism (SHPT) and secondary hyperparathyroidism (SHPT) and elevated serum parathyroid hormone (PTH). Missed dialysis sessions are also associated as a surrogate marker for patient hospitalization by dialysis providers, and are a key economic factor for dialysis organizations.

Sawaya® (cinacalcet) is an oral calcimimetic indicated for SHPT in HD patients. Trials have shown that the use of cinacalcet reduces PTH and lowers calcium and phosphorus in patients. We hypothesized that it may also impact the rate of missed dialysis sessions.

Evaluation of the Impact of Cinacalcet Treatment on Missed Dialysis Sessions

Methods

• ITT analyses considered patients beginning on index date and continued until censoring. The primary ITT analysis was weighted by the stabilized inverse probability (IP) of censoring to account for differential loss to follow-up. The IP was also considered to gauge the degree to which differential censoring may have biased estimates.
• AT analyses considered patients continuing on index date and continuing until censoring or the primary AT analysis was weighted by the stabilized IP of censoring or crossover. Unweighted AT analysis was balanced.
• Estimation of 6% of weight. Stabilized IP weights were estimated using the method of Rotling, Imura, and Brunson. In the primary AT analysis, separate IP analysis by weight was imputed and all IP crossover weights were applied.

Results

• To estimate the effect of cinacalcet use on rate of missed in-center HD sessions among patients with SHPT.

Table 1. Baseline Patient Characteristics

Table 2. Baseline Patient Laboratory Measures and Medication Use

Table 3. Associations Between Cinacalcet Use and Rate of Missed Dialysis Sessions

Discussion and Conclusion

• Baseline characteristics of cinacalcet initiators and matched controls were well balanced.
• In unweighted analyses, use of the oral calcimimetic cinacalcet was associated with a clinically meaningful 6% relative reduction in the rate of missed dialysis treatments.
• In AT analyses that were weighted by the stabilized IP of crossover and censoring (to account for selection effects), cinacalcet use was associated with an 8% relative rate reduction in missed dialysis treatments, and thus the result does not appear to be due to selection bias imposed by differential dropout or crossover in patients in response to changes in clinical status.
• The possibility of residual bias due to unmeasured confounding cannot be ruled out despite efforts to address using advanced analytic methods for confounding and selection bias.

References


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