

KCHP Poster Abstract

Title

Efficiency and Safety of Undiluted Intravenous Push Levetiracetam and Lacosamide

Purpose

Recently, institutions have implemented the use of undiluted IV push levetiracetam (LEV) and lacosamide (LCM) to expedite preparation and administration. The practice to push undiluted IV LEV doses ≤ 1500 mg and LCM doses ≤ 400 mg is in place at our institution. The purpose of this study was to evaluate the efficiency and safety of IV push LEV and LCM.

Methods

A retrospective, single-center, cohort study was approved by the institutional review board in November 2020. A generated report identified patients ≥ 18 years old with an order for IV LCM or IV LEV during the study period. Patients were excluded from analysis if they were prisoner, pregnant, on vasopressor support prior to AED initiation, or did not have an initial AED ordered for immediate use. The primary outcome was the time from order entry to medication administration of the initial AED dose. Secondary outcomes included time from order entry to pharmacist verification, time from pharmacist verification to medication administration, rate of overdue doses, rate of adverse drug reactions, and cost.

Results

Two-hundred patients were included for analysis in both push and infusion LEV groups. Twenty-two patients were included in the LCM infusion group and 50 patients were included in the LCM push group. Median time from order entry to administration was significantly reduced in the LEV (27 vs 52 minutes; $p < 0.001$) and LCM (32 vs 89 minutes; $p < 0.001$) IV push groups. No patients experienced bradycardia and only three patient in experienced hypotension across all patient groups. The majority of infusion reactions occurred in the LEV comparator group; 16% in the infusion group and 12% in the push group.

Conclusion

Undiluted IV push LCM and LEV are more efficient with similar safety profiles compared to IV infusion administration.