Background

Neuropathic pain can be recalcitrant to current treatment conventions. The use of Ketamine has demonstrated effectiveness as an analgesic to treat neuropathic pain not responsive to other treatment modalities. However, it is not widely administered to outpatients due to concerns of side effects such as hallucinations, cognitive disturbances, nausea, and hemodynamic instability. We were not able to record psychomimetic side effects as data reviewed through chart review was inconclusive. This retrospective chart review was initiated to study the safety and efficacy of multi-day low-dose ketamine infusions in outpatients.

Methods

Our study was granted exempt status by the Institutional Review Board. All patients undergoing outpatient ketamine infusion for neuropathic pain from July 2009 to August 2010 were included. We reviewed 34 charts. The ketamine dose was increased incrementally each day from 0.2 to 0.4 and 0.6 mg/kg/hr for four hours. We measured pre and post infusion NRS; pre, intra and post infusion blood pressure, heart rate and incidence of nausea. The infusion was started with Ketamine 0.2mg/kg/hr for a total of 4 hours on the first day. This was repeated for a second and third day at Ketamine 0.4mg/kg/hr and 0.6mg/kg/hr respectively.

Results

Our study also showed no change in baseline SBP, DBP and heart rate during the course of the infusion illustrating hemodynamic stability at all three doses of the ketamine infusion. Tabulation of NRS scores also suggest that there was no difference in the change of NRS between the 0.2mg/kg/hr and 0.4mg/kg/hr group, but the 0.6mg/kg/hr group had a significant drop in NRS than the other two groups as is evident in table 2. The most common reported side effect of nausea was compared among the three treatment groups. The Pearson Chi-square test to assess the association between nausea and treatments gave a p-value of 0.120, which suggests no significant difference in the proportions of nausea in the three treatment groups.

Conclusion

Multi-day outpatient ketamine infusion was safe and efficacious for the small sample of patients studied. Further prospective double-blind randomized studies that account for confounding factors need to be performed to define the role of outpatient ketamine as an analgesic adjuvant for the management of neuropathic pain syndromes.

References