Use of intravenous levetiracetam for acute seizure management in neonates

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Abstract Introduction: Neonatal seizures are defined as paroxysmal alterations in neurologic function that can be documented electroencephalographically with or without clinical manifestations. They affect approximately 1-4 of 1000 live births in North America and are a major predictor of adverse neurologic outcomes. Very few antiepileptic medications carry an FDA-approved indication for treatment of neonatal seizures, and a pressing need exists for alternative treatment choices. Levetiracetam is an antiepileptic drug with a novel mechanism of action; the intravenous form is currently approved as adjunctive treatment for a variety of seizures in patients 16 years of age and older. Intravenous levetiracetam is being increasingly used “off-label” in pediatric patients because of literature documenting efficacy and safety in adults, along with favorable anecdotal reports in younger patients. Objective: The goal of this study is to retrospectively assess the efficacy and tolerability of intravenous levetiracetam therapy in acute seizure management during the neonatal period. Methods: A retrospective chart review will be conducted on all term and near term neonates who received intravenous levetiracetam at our institution between January 2007 and December 2009. The primary outcome assessed will be response to treatment based on clinical and/or electroencephalographic chart documentation. Secondary outcomes measured will include response related to drug levels, laboratory evaluations of renal function, complete blood counts, adverse events, discharge medications, and follow-up. Results: At the time of submission, data collection is still underway. Disclosures: The authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation. OA Khan has nothing to disclose. EY Chang has nothing to disclose. CA Cipriani has nothing to disclose. ED Crisp has nothing to disclose. CC Wright has nothing to disclose. BF Kirmani has nothing to disclose.