Poster Abstracts

PO-70

SEVERE PHENYTOIN TOXICITY IN NEONATE: A CASE REPORT

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Objectives: To present a case of Phenytoin Toxicity in neonates and discuss its management.

Methods: Case Report: Chart Review - Manifestations, laboratories and treatment outcome were reviewed.
A neonate diagnosed with Multiple Congenital Anomalies, Craniosynostosis probably Pfeiffer syndrome was referred due to decrease in sensorium. On 5th day of life, patient had 2 episodes of cyanosis; she was given Phenytoin 50 mg SIVP as loading dose then maintenance dose of 12.5 mg IV every 24 hours. On 7th day of life, with no recurrence of cyanosis, Phenytoin IV was shifted to Phenytoin suspension 125mg/5 ml ordered at 4 ml every 12 hours per orem. This dosage was given for 4 doses. On 9th to 11th day of life, patient had cyanotic episodes, sudden onset of eye opening with tonic contraction of upper extremities, mandibular twitching, decreased in sensorium, bradycardia and poor pulses. Phenytoin Assay result was high at >158.40 umol/L. Immediate attention was directed towards stabilization of the patient. Double Volume Exchange Transfusion was done in attempt to eliminate the Phenytoin within the patient's system. However, the procedure was aborted on the 10th dose because the patient had a Cardiopulmonary arrest. Hemodynamic support treatment was continued. The patient slowly recovered and was sent home improved.

Discussion: The oral Phenytoin dose given on the 7th day of life is equivalent to 40.39 mg/kg/dose, given 2x a day amounting to 80.78 mg/kg/day. The recommended maintenance dose for neonates is 5-8 mg/kg/day IV/PO divided in 2 or 3 doses.
Supportive care is the mainstay of treatment. This primarily involves management of CNS depression, and, with massive overdose, respiratory depression will likely require oxygen or ventilatory support. Gastrointestinal upset, movement disorders, and other symptoms may occur, but are unlikely to require active intervention. Serum drug concentrations should be monitored. Following intravenous overdose, heart rate, blood pressure, and ECG should also be monitored.
Decontamination and enhanced elimination through administration of activated charcoal is recommended. However, with a neonate patient, activated charcoal may cause necrotizing enterocolitis. Phenytoin is moderately dialyzable, hence , the decision for Double Volume Exchange Transfusion.

Conclusion: Phenytoin toxicity treatment is based on symptomatic and supportive care. Phenytoin assay must be monitored. Decontamination and enhanced elimination may be helpful but benefits must outweigh the risks.