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LETTER TO THE EDITOR

Opisthotonos and midazolam

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To The Editor:

A 3-year-child, weighing 11.4 kgs, was admitted in the accident and emergency ward in status epilepticus of more than one hour duration. He was administered diazepam suppository followed by 3 doses of intravenous diazepam. When diazepam failed to control the status epilepticus a loading dose of phenytoin sodium 200 mg (18 mg per kg) was given. This too failed to control the status hence, an additional dose of 5 mg per kg of phenytoin sodium was administered. As the child continued to have seizures, he was shifted to the pediatric intensive care unit and an intravenous bolus of midazolam at 0.1 mg per kg was given followed by increasing doses by infusion, from 1 µg/kg/minute to 5 µg/kg/minute, which controlled the status. In addition, a dose of mannitol, at 0.5 g/kg and dexamethosone 0.15 mg per kg was given. After the status was controlled abnormal retractions of head and arching of back was observed. This worsened on examining. This posture was noted when the child was in the lateral posture, which reduced when supine. After the seizures control for 4 hours, a tapering of midazolam was started. With 1 µg/kg/minute there was no opisthotonos. Midazolam was continued for 24 hours and then tapered off. Phenytoin sodium was continued at 5 mg/kg, 12 hourly intravenous for the next 5 days.

Midazolam is a water-soluble benzodiazepine with sedative and anesthetic properties (1). Several side effects are associated with midazolam which include central nervous system effects like hypoxia, apnea, headache, confusion, tremor, vertigo, ataxia and systemic side effects like hypotension, blood disorders and jaundice (2,3). Opisthotonos was recently reported in two children administered midazolam for non-neurological indications (e.g. imaging) (4). Flumazenil given to antagonize side effect of midazolam was reported producing opisthotonos (5). What is the underlying mechanism for the production of opisthotonos with midazolam is not clear. We could postulate it to be related to high dose, as opisthotonos disappeared on reducing the dose. The precise correlation needs further studies.

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