SCIENTIFIC BACKGROUND

1. Seizures lasting longer than 5 minutes have a low probability of spontaneous cessation.
2. The longer a seizure lasts, the more difficult it becomes to treat.
3. The risk of physiologic decompensation and possible neuronal injury increases with duration of prolonged seizures.
4. IN/buccal midazolam has been shown to be an effective and safe medication for treatment of prolonged seizures (Class 1 evidence).
5. In most studies, both forms of midazolam have been shown to be superior to rectal diazepam with respect to efficacy and ease of administration.
6. Studies have shown that a single dose of IN/buccal midazolam in optimal doses has a low chance of respiratory depression and hemodynamic compromise in comparison to rectal diazepam. Respiratory depression occurred when repeated suboptimal doses were given and with untreated seizures.
7. IN/buccal midazolam has not been studied adequately in the neonatal period.

RECOMMENDATIONS

1. IN/buccal midazolam 0.2-0.3 mg/kg/dose (maximum 10 mg) should be prescribed for a seizure greater than or equal to 5 minutes in children at risk for prolonged seizures.
2. Rectal diazepam 0.5 mg/kg/dose (maximum 10 mg) may be preferable to IN/buccal midazolam in young infants (<3 months of age) and neonates due to the poor evidence in this age group. Test doses are recommended for rectal diazepam but are at the physician’s discretion.
3. Test doses are not mandatory for IN/buccal midazolam due to the low risk of respiratory depression, but should be considered on an individual basis and in special circumstances such as:
   a. Previous history of respiratory depression with a benzodiazepine
   b. Previous adverse reaction to a benzodiazepine
   c. Children deemed at high risk for respiratory compromise by the prescribing physician
   d. Children who have compromised respiratory function.

*Note: If test dose required, must be done in presence of medical supervision.

REFERENCES

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7) Bhattacharyya MKalra VGulati S Intranasal midazolam vs rectal diazepam in acute childhood seizures. Pediatr Neurol 2006;34 (5) 355-359

