Sedation Effects of Benzodiazepines and NMDA Receptor Blockers in Cat

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Abstract:
Ketamine, a synthetic NMDA receptor blockers, has been used in human and animal operations for many years as an anesthetic agent via oral administration. Benzodiazepines are the most commonly prescribed depressant medications and can be used as a preanesthctic drugs for premedication and relieving of animals.
The aim of this study was to evaluate the alone and combined CNS depressant effects of Ketamine and lorazepam in cat. Nine mixed bred male and mature cats were received drugs [ketamine (20, 40, 80mg/kg) and lorazepam (2, 4, 8mg/kg)] as oral solution in the mixture of milk or meat. In the second stage, animals were received concomitant does of lorazepam and ketamine with above mentioned methods. Each animal was monitored continuously by educated experts for CNS depression signs as graded on the behavioral scales.
Almost all of the animals rejected receiving drugs in mixture of milk. However, drugs which were mixed with meat were taken by cats. Ketamine and lorazepam showed a significant dose dependent effect in different doses. Nevertheless, concomitant administration of ketamine (40 mg/kg) and lorazepam (4 mg/kg) improved depth and duration of CNS depression in comparison with single administration of ketamine or lorazepam.
This results indicated that, combined administration of ketamine 40 mg/kg + lorazepam 4 mg/kg was the ideal dose for premedication and sedation in cats.

Keyword: CNS depression, Preanesthesia, Ketamine, Lorazepam, Cat