Effect of Nano-Particle of Magnesium Oxide on Ketamine-Induced Anesthesia in Rabbit

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Objective - Some studies show magnesium has analgesic effect in some pain models but this evaluation was not carried on nano-Magnesium Oxide (MgO).

Design- present study was designed to evaluation effect of MgO nanoparticles and conventional MgO on ketamine-induced anesthesia in rabbits.

Animals- At this study, 20 adult rabbits were used in 4 groups.

Procedures- Ketamine was intrapritonealy injected in all groups and xylazine, MgO nanoparticle and MgO suspension was administrated 15 min before ketamine injection in 3 last groups. The rectal temperature, respiratory rate and heart rate were measured before drug administration and during of anesthesia. Duration of anesthesia and recovery time was recorded.

Results- The mean of body temperature and heart rate changed in groups but this change was not significant except group1 which received only ketamine. The mean of respiratory rate significantly decreased before and after anesthesia in all groups but this decreasing was greater (nearly 3 fold) in group 2 which received ketamine and xylazine. Also duration of anesthesia was longer significantly in this group.

Conclusion and Clinical Relevance- Thus quality and duration of ketamine-induced anesthesia did not differ by MgO-nanoparticles with comparison to conventional MgO.

Keywords: Anesthesia, ketamine, mgo nano-particles, rabbit

REFERENCES-


