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Oral administration of injectable Vitamin K for long-acting anticoagulant rodenticide poisoning

Dong-Zong Hung

Division of Clinical Toxicology, China Medical University Hospital, Taichung, Taiwan

Objectives: Long-Acting anticoagulant rodenticide (LAAR) poisoning is a common intoxication in Asia-Pacific regions and possibly leads to long term bleeding problems and needs several months of antidote treatment. Due to cost reason, tablet preparation of vitamin K1 is not available in most of countries in these regions. In the literature, few reports point out that the injectable form of vitamin K could be used orally in patients with excessive anticoagulation. Here, we report a family with 3 members suffered from LAAR poisoning with severe coagulopathy needing prolong hospitalization for intravenous vitamin K1 therapy, and successfully managed with injectable formula orally.

Case report: A mother and her two children (age 18 & 15) visited our emergency room due to hematuria and tarry stool for days. The mother attempted suicide by adding a bottle (500 ml) of brodifacoum to fried rice and fruit juice about one week ago. Uncoagulated blood was noted in these 3 patients. Following 30-40 mg of vitamin K1 therapy intravenously, no more bleeding diathesis were noted in 2 days, and their INR of prothrombin time were kept around 1.2. Prolonged hospitalization was required due to a worsening of the INR while reducing the dose of vitamin K1. We tried oral administration of injectable phytomenadione 40-60 mg daily and could keep their INR around 1.2 to 1.3 and allow discharge.

Conclusion: Antidotal treatment of LAAR poisoning might last for several months and need prolonged hospitalization. Oral administration of injectable vitamin K1 might be a substitute with a comparable efficacy.

Reference: Rose P., et al. Price-Performance Ratio Analysis of Enteral Vitamin K Formulations. *Pharmacy & Therapeutics*. 2018; 43(3): 168-170