Vitamin K1 (Phytonadione, Mephyton®)

Drs. Foster & Smith Educational Staff

Summary

Vitamin K1 is used to treat poisonings with certain rat and mouse poisons. Vitamin K1 is first given by injection, then orally for 2-4 weeks. Vitamin K3 is NOT effective against these poisonings. Success of therapy is evaluated by blood tests to assess blood clotting ability.

Generic Name
Phytonadione Vitamin K_1

Brand Names
Veta-K_1, Veda-K_1, Mephyton, Aqua-Mephyton

Type of Drug
Vitamin and antidote for anticoagulation poisoning (rat/mouse poison)

Form and Storage
Tablet, capsule, and injectable
Store at room temperature in light resistant tightly closed container.

Indications for Use
Treatment of anticoagulant rodenticide poisoning (rat/mouse poison).

General Information
FDA approved for use in veterinary medicine. Available by prescription. Vitamin K_1 is needed for the body to make certain blood clotting factors in the liver. Poisoning with rat/mouse poisons or similar products causes the animal to bleed to death, as the body is unable to use its Vitamin K_1 and essentially is deficient in it. By giving supplemental Vitamin K_1, the body does not become deficient, and severe bleeding does not occur. If the body is deficient in Vitamin K_1 and supplemental Vitamin K_1 is given, it may take 6-12 hours for new clotting factors to be made by the body, and in the meantime, the pet may need blood products (blood transfusion) to live. Two types of rodenticides are on the market. One type lasts for days to weeks, and the other lasts up to a month. Anticoagulant rodenticides taste good to both children and pets, so extreme care must be taken to keep children or pets away from such a product, as they will eat it.

Usual Dose and Administration
Dose depends on type of poison pet ingested. The first (loading) dose is usually 1.15 to 2.25 mg/pound given by injection subcutaneously (SQ) divided between several sites. Then, an oral amount of up to 2.5 mg/pound daily *divided* into 2-3 doses a day is given for 2-4 weeks. Monitor coagulation profile during treatment and after treatment. Restrict animal's activity until 1 week after treatment is completed.

Side Effects
Do not use intravenously (IV) as death has resulted. Intramuscular (IM) injections may cause bleeding especially in the early stages of treatment. Subcutaneous (SQ) and oral doses may be poorly absorbed in dehydrated patients. Pain, tenderness, and swelling may occur at injection sites.

Contraindications/Warnings
Do not give to patients who are hypersensitive (allergic) to it.

Not for use in pregnant or nursing animals.

Does not correct bleeding disorders resulting from heparin administration or liver damage.

Keep the pet quiet during and for a week after treatment.

Monitor for signs of bruising and bleeding. Vitamin K_3 is not effective. Need to use Vitamin K_1.

Not treating a pet poisoned with anticoagulant rodenticides will likely result in the animal's death. Treatment needs to begin immediately.

Contact your veterinarian if you think your pet may have ingested (eaten) rat/mouse poison.

Drug and Food Interactions
The following may decrease the action of Vitamin K_1 and increase the action of the anticoagulant poison: phenylbutazone, aspirin, chloramphenicol, sulfonamides, diazoxide, allopurinol, cimetidine, metronidazole, Anabolic steroids, erythromycin, ketoconazole, propranolol, and thyroid drugs.

Mineral oil may reduce the absorption of oral Vitamin K_1.

Effect of coumarin is decreased.

Overdose/Toxicity
Unlikely to see an acute overdose.

Keep this and all other medications out of the reach of children and pets.

If you think your pet has been poisoned...
Contact your veterinarian or one of the Animal Poison Hotlines (listed below) if you think your pet may have accidentally received or been given an overdose of the medication.
**ASPCA National Animal Poison Control Center
1-888-4ANI-HELP (1-888-426-4435). $65.00 per case, billed to caller's credit card.
Follow-up calls can be made for no additional charge by dialing 888-299-2973.
There is no charge when the call involves a product covered by the Animal Product Safety Service.
**Pet Poison Helpline - 24-hour service available throughout North America for pet owners and veterinary professionals who require assistance with treating a potentially poisoned pet.
1-800-213-6680 ($35.00 per incident). Staffed 24-hours a day.

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