https://agupdate.com/iowafarmertoday/news/state-and-regional/safety-watch-micotil-injections-can-be-lethal/article_3b46c3b7-129f-5e4c-8e85-e6ea2fb66e7c.html

Iowa Farmer Today

# Safety Watch: Micotil injections can be lethal

**By Stephanie Leonard** May 14, 2016

Micotil 300 has been used for more than 20 years to treat and prevent pneumonia and shipping fever. Accidental injections with Micotil have killed several Midwest producers.

Photo courtesy Doug Leonard

Last month, the Iowa Fatality Assessment and Control Evaluation (FACE) Program was notified of a farmer's death that resulted from an unintentional needlestick injury while treating cattle with Micotil 300. The needlestick discharged an unknown amount of the antibiotic — likely no more than 5 cc — into his thigh.

Circumstances of the injection were unclear; he hadn't mentioned the injury to a relative he was working with at the time the incident likely occurred.

After treating two steers, the men left to work in different areas at the farm.

Later, he was found asleep in his truck. When awakened, he complained of flu-like symptoms. He described pain in his thigh and said he was "nicked with Micotil" three hours earlier. Family members called for an ambulance.

Shortly after, he suffered cardiac arrest. Relatives administered CPR until EMS services took over. He was transported to a local hospital and airlifted to a regional medical center where he died less than seven hours after the injection.

Micotil 300 (tilmicosin injection) is a macrolide antibiotic produced by Elanco Animal Health to prevent or treat bovine and ovine upper respiratory disease. It has been used in the U.S. since 1992.

In the U.S., Micotil is available only to licensed veterinarians; its use is restricted to veterinarians and those with veterinary orders (prescription). The recommended dose for cattle is 1.5 to 3 cc per 100 pounds body weight administered subcutaneously.

Intravenous injection in cattle and sheep is fatal.

Micotil is toxic to the heart and cardiovascular system, causing increased heart rate and changes in heart tissue. Human fatalities have been reported following injected doses as low as 3 to 5 cc.

Clinical signs from human injection include off-taste in the mouth, nausea, dizziness, rapid heart rate, chest pain, anxiety and light-headedness. The injection site may be painful, swollen, inflamed or bleeding. Exposure symptoms can develop within 15 minutes to hours after an injection.

Between 1990 and 2000, nearly 2,400 Micotil-related punctures, scratches and injections were reported to poison control centers in the U.S.

Over 3,100 reports of human exposure to Micotil were made to Elanco Animal Health between 1992 and 2005; more than 60 percent resulted from accidental injection.

Needlesticks involving veterinary activities are common among vets, ranchers and farmers; most are minor, resulting in skin infections and allergic reactions. Needlesticks with Micotil are less common, but potentially lethal.

More than a dozen human deaths related to Micotil injection have been reported worldwide. Midwest farmers and ranchers who were familiar and experienced in its use are among the fatalities.

Iowa's recent fatality claimed a 36-year-old farmer who had otherwise been in good health.

Accidental needlestick injections occur in many scenarios: While carrying or transporting loaded syringes by hand or in clothing pockets, during falls or slips, when the body part is pinned between

the syringe and another object, when animals move suddenly or when recapping or reusing needles.

Product instructions from Elanco recommend extreme caution when handling syringes and warn that automatic injector syringes should not be used, presumably for both human safety and to prevent intramuscular injection.

Instructions recommend using a 1/2-inch to 5/8-inch 18- to 16-gauge needle and keeping a protective cover on the needle until time of use. Loaded syringes should be carried only in hard covered containers, never in pockets or in clothing

Micotil-related fatalities prompted design of a Sekurus safety syringe to reduce risk of accidental injection. The Sekurus syringe, which is recommended in Micotil product literature, incorporates a needle guard and a two-part mechanism that requires the trigger to be pulled and the syringe to be placed against the animal before the needle delivers a dose.

The syringe design creates a “tent” in the animal’s skin into which the needle is injected, keeping the operator’s free hand away from the needle and the animal.

Still, many veterinarians and producers won’t take the personal risk of using a pharmaceutical product for which there is no antidote.

“We don’t carry it because of the safety risks,” said Marvin Slabaugh, DVM, of Kalona (Iowa) Veterinary Clinic. “We use and prescribe other products that are as, or more, effective without the risk that comes with Micotil.”

Other options include Draxxin, florfenicol products (Nuflor, Resflor), Zuprevo, Enroflox and Excenel.

Sheldon Yoder, Kalona Veterinary Clinic owner, added, “One of the biggest risks (for injection) is movement of a calf you’re treating; if it’s not properly restrained, it can kick or knock a syringe out of your hand. Your instinct is to grab it if it drops; there’s another risk for injection.

“We just don’t see a reason to use the product because of the high risk involved. The risk is higher than what we’re willing to take.”

Iowa’s recent fatality should serve as a trigger for producers and veterinarians to discuss and reevaluate the risks associated with Micotil use and the precautions that must be used to minimize accidental injection.

Consult with your veterinarian about the safest product options available for your operation and the best practices to minimize risks.

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