Adverse Drug Reactions

In this era’s equine community, a well-informed and well-educated horse owner is welcomed with open arms. In the past, a horse owner would simply call the veterinarian anytime their horse had a sniffle, and many equine veterinarians find themselves overworked on a regular basis—tasks that were once performed by the owner now fall to the veterinarian. As a result, veterinarians must be familiar with the steps to take and how to communicate with the horse owner when they arise is key to giving the horse his best chances of complete recovery. Whether it is a drug reaction or a drug overdose, practitioners should always strive to prevent mistakes from occurring in the first place, however knowing how to handle medication mishaps is equally important.

Preventing Mishaps

“Some owners may not follow the instructions for administering medication,” said BVetMed, Dipl. ACVIM, ACVS, an equine practitioner performing research at the University of Kentucky Maxwell H. Gluck Equine Research Center in Edmonton, Canada. “Some owners call their veterinarian anytime their horse has a sniffle, while others tend to stockpile medications to treat their charges without veterinary guidance.”

Use Caution with Medications

Not only is that irresponsible, it’s also an adverse drug reaction because (the medication) isn’t working,” she said. “The owner may try giving the horse more of the medication, which can cause the reaction to become worse with repeated exposure, such as allergic reactions or hypersensitivity and dose-related.

Adverse Drug Reactions

Adverse drug reactions (ADRs) are serious complications that can occur following medication administration. They are common, usually dose-related, and can range from mild to potentially fatal. ADRs can be categorized into two broad categories: idiosyncratic (in which the reaction is unpredictable, might or might not recur in a given individual, and may occur at any dosage level) and dose-related (in which the reaction is predictable and related to a specific drug dose and/or route of administration).

A number of factors can increase the risk of ADRs, including the age, weight, or health status of the horse, as well as the patient’s other medications or medical conditions. For example, phenylbutazone is not licensed for IM injection and causes “massive tissue sloughs” if administered in that route, whereas flunixin meglumine is only approved for IM, IV, or SC injection and can cause severe tissue damage if given as a bolus or IM injection. Adverse reactions to flunixin are also dose-related: at the higher dosages, the reaction is more likely to be severe. Therefore, many veterinarians avoid giving the drug to a foal in order to avoid complications.

ADRs can also cause a reaction in animals that have never been exposed to a medication before, such as allergic reactions. A horse’s prior reaction to a medication can also increase the risk of ADRs.

ADRs can be prevented by closely monitoring their administration. For example, if a horse is allergic to penicillin, it should never be administered to that horse, even if a different form of penicillin is used. If a horse is allergic to flunixin, it should never be administered to that horse, even if a different non-steroidal anti-inflammatory drug (NSAID) is used.

Paracelsus, a 16th century Swiss physician and alchemist, once said, “Poison is in everything, and no thing is without poison.” While this statement is true, veterinarians must still be cautious when administering medications to horses.

ADRs are often the result of administering the wrong drug, administering a drug at the wrong dose, dosage frequency, or duration, or administering a drug at the wrong route of administration.

“Most drugs used in equine veterinary medicine today can produce an adverse drug reaction if not used carefully,” said Adam. “Many of the available medications have not been tested in the horse. For example, in human medicine, acetaminophen is known to cause liver damage; however, it is not known to cause liver damage in horses.”

“Drug companies go to great trouble and expense to get products safely on the market,” Adam said. “However, testing the product in the horse is not always possible. Therefore, veterinarians must be aware of the potential for adverse reactions when using medications.”

It’s also important for veterinarians to report any ADRs to the drug manufacturer.

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Accidental Administration of the Wrong Drug

Accidental overdoses are not uncommon in veterinary medicine, “but a lot of these adverse drug reactions are related to the proper administration of the medication,” Adam said. “For example, if a horse is allergic to penicillin, it should never be administered to that horse, even if a different form of penicillin is used. If a horse is allergic to flunixin, it should never be administered to that horse, even if a different non-steroidal anti-inflammatory drug (NSAID) is used.”

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