Prudent drug use from the practitioner's viewpoint

Phil A. Lowe, DVM
Private practitioner, Beverly, OH 45715

Abstract

With increased scrutiny from government agencies, animal rights groups and consumers, we need to be more vigilant with antibiotic usage on farm. Now more than ever we need to assure that a valid veterinarian-client-patient relationship (VCPR), written protocols and treatment records are in place for drug use documentation. As the veterinarian of record (VOR) it is our responsibility to oversee drug usage on our client's operations and monitor treatment response and protocol drift.

Key words: VCPR, drug usage, protocols

Résumé

Avec une surveillance accrue des organismes gouvernementaux, les groupes de défense des droits des animaux et des consommateurs, nous avons besoin d'être plus vigilant à l'utilisation des antibiotiques à la ferme. Maintenant plus que jamais nous avons besoin d'assurer qu'une relation vétérinaire-client-patient (RVCP), les protocoles écrits et enregistrements de traitement sont en place pour la lutte contre l'utilisation de la documentation. Comme le vétérinaire officiel (VOR) c'est notre responsabilité de superviser l'usage des drogues sur nos opérations du client et de surveiller la réponse au traitement et au protocole de la dérive.

Introduction

Today's dairy producers and veterinarians need to take an increased active role in drug usage and documentation on their operations. Written VCPR's, written treatment protocols and treatment records need to be common place in all operations. As the VOR, it is your responsibility to make sure all areas of prudent drug use are followed and documented. Everything from protocols to drug storage to employee training and oversight need to be reviewed and documented.

Implementation

The first step in the process needs to be a signed VCPR in place. There are several good sites for templates to use to create this. I have decided to make my own simple form that explains the principles of what I expect out of the VCPR from my clients. My approach is a simple statement that says the client has agreed that I am the VOR and that they agree to follow my treatment protocols and recommendations, and that I have agreed to accept the responsibility for herd health and drug usage, and to monitor results and be available for treatment failures or adverse outcomes.

I believe that before drugs can be scripted for a producer that a written protocol has to be in place for proper use of each drug that is on the farm. The owner needs to understand extra label use, route of administration, and withholding for all medicines stored on site. I educate my clients on the restricted uses for the cephalosporins, the need to only administer flunixin by the IV route and have them sign off that they understand and agree to follow those rules. This needs to be taken seriously and not just a rubber stamp signature on a piece of paper. If I do not belief the client is able or willing to follow these protocols than I believe I have the right to limit what drugs I will allow on farm, and if I am even willing to sign a VCPR on that particular farm.

Protocols need to be simple and easy to follow for them to be used routinely. There needs to be a case definition of what we are treating and easy to follow directions for treatment. When making our protocols, we need to be ever cognizant of withholding times and systems to record treatments. Protocols need to be made specific for each farm and what they are capable and willing to do, and not just a one size fits all concept.

Oversight

Treatment records need to be reviewed on a periodic basis and monitored for protocol drift and deviation from accepted practices. My philosophy is to review the records when on farm for routine herd health visits. At that time I go over the records with the owner and/or herdsperson to assure that all treatment are being recorded and properly administered. If problems are seen they can be addressed and possible changes to the protocols can be made. When reviewing the records, I initial on the page to document that I did review the records and everything appears to be within our protocols.

I also routinely inventory the medicine cabinet to assure that every drug on farm is listed on one of our protocols and that supplies are reasonable for disease incident on our farm and herd size.

It is important to record all on farm treatments that we do while on farm as well. We need to show our clients that if this is truly important than we need to take the effort to record what we do on farm in the treatment log.

Treatment logs don't need to be anything extravagant, but there is certain information that needs to be included. That is drug name, route of administration, dose, and name of person administering. These can be as simple as a 3-ring binder to complex computer software, as long as it is recorded.

Conclusion

As the VOR, it is our job to oversee drug use on our clients operations, and assure a safe wholesome product for their consumers. There continued use of antimicrobials on farm is contingent on us being diligent in drug oversight.

300 PRO LA®

(oxytetracycline) Injection

ANTIBIOTIC:

Each mL contains 300 mg of oxytetracycline base as amphoteric oxytetracycline. **For Use in Beef, Non-lactating Dairy Cattle, Calves, including Pre-ruminating (Veal) Calves and Swine.**

READ ENTIRE LABEL CAREFULLY BEFORE USING THIS PRODUCT.

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

INTRODUCTION:

300 PRO LA (oxytetracycline) Injection is a sterile, ready to use solution of the broad-spectrum antibiotic oxytetracycline dihydrate. Oxytetracycline is an antimicrobial agent that is effective in treatment of a wide range of diseases caused by susceptible gram-positive and gram-negative bacteria.

300 PRO LA should be stored at room temperature 56°-86°F (15°-30°C). The antibiotic activity of oxytetracycline is not appreciably diminished in the presence of body fluids, serum or exudates.

INGREDIENTS:

300 PRO LA Injection is a sterile, pre-constituted solution of the broad-spectrum antibiotic oxytetracycline dihydrate. Each mL contains 300 mg oxytetracycline as base, 40% (v/v) glycerol formal, 10% (v/v) polyethylene glycol 200, 2.7% (w/v) magnesium oxide, 0.4% (w/v) sodium formaldehyde sulphoxylate (as a preservative) and monoethanolamine (as required to adjust pH).

INDICATIONS:

300 PRO LA is intended for use in treatment for the following diseases when due to oxytetracycline-susceptible organisms: *Beef cattle, non-lactating dairy cattle, calves, including pre-ruminating (veal) calves*: 300 PRO LA is indicated in the treatment of pneumonia and shipping fever complex associated with *Pasteurella* spp., and *Histophilus* spp. 300 PRO LA is indicated for the treatment of infectious bovine keratoconjunctivitis (pink eye) caused by *Moraxella bovis*, foot-rot and diphtheria caused by *Fusobacterium necrophorum*; bacterial enteritis (scours) caused by *Escherichia coli*; wooden tongue caused by *Actinobacillus lignieresi*; leptospirosis caused by *Leptospira pomona*; and wound infections and acute metritis caused by strains of staphylococcal and streptococcal organisms sensitive to oxytetracycline. Also, it is indicated for the control of respiratory disease in cattle at high risk of developing BRD associated with *Mannheimia (Pasteurella) haemolytica*.

Swine:

300 PRO LA is indicated in the treatment of bacterial enteritis (scours, colibacillosis) caused by Escherichia coli; pneumonia cause by *Pasteurella multocida*; and leptospirosis caused by *Leptospira pomona*. In sows 300 PRO LA is indicated as an aid in control of infectious enteritis (baby pig scours, colibacillosis) in suckling pigs caused by *Escherichia coli*.

PHARMACOLOGY:

Oxytetracycline is derived from the metabolic activity of the actinomycete, *Streptomyces rimosus*. Oxytetracycline is an antimicrobial agent that is effective in the treatment of a wide range of diseases cause by susceptible gram-positive and gram-negative bacteria. The antibiotic activity of oxytetracycline is not appreciably diminished in the presence of body fluids, serum or exudates.

Studies have shown that the half-life of oxytetracycline in blood following intramuscular treatment with 300 PRO LA at 5 mg per pound of bodyweight is approximately 23 hours in cattle and 18 hours in swine. Studies have shown when 300 PRO LA is administered once intramuscularly to cattle or swine at 9 mg per pound of bodyweight, blood oxytetracycline concentration of greater than 0.2 mcg/mL have been observed for 3 to 4 days.

Studies have shown when 300 PRO LA is administered once intramuscularly or subcutaneously to cattle at 13.6 mg per pound of bodyweight, blood oxytetracycline concentration of greater than 0.2 mcg/mL have been observed for at least 7 to 8 days.

DOSAGE AND ADMINISTRATION:

Beef cattle, non-lactating dairy cattle, calves, including pre-ruminating (veal) calves: A single intramuscular or subcutaneous dosage of 13.6 mg of oxytetracycline per pound of bodyweight, 300 PRO LA is recommended for the control of respiratory disease in cattle at high risk of developing BRD associated with *Mannheimia (pasteurella) haemolytica*.

At a single intramuscular or subcutaneous dose range of 9 to 13.6 mg of oxytetracycline per pound of bodyweight, 300 PRO LA is recommended in the treatment of the following conditions:
(1) Bacterial pneumonia caused by *Pasteurella* spp (shipping fever) in calves and yearlings where retreatment is impractical due to husbandry conditions, such as cattle on range, or where their repeated restraint is inadvisable
(2) Infectious bovine keratoconjunctivitis (pink eye) caused by *Moraxella bovis*.

For other indications 300 PRO LA is to be administered intramuscularly, subcutaneously or intravenously at a level of 3 to 5 mg of oxytetracycline per pound of bodyweight per day. In treatment of foot-rot and advance cases of other indicated diseases, a dosage level of 5 mg per pound of bodyweight per day is recommended. Treatment should be continued 24 to 48 hours following remission of disease signs, however, not to exceed a total of four (4) consecutive days. If improvement is not noted within 24 to 48 hours of the beginning of treatment, diagnosis and therapy should be re-evaluated.

Do not administer intramuscularly in the neck of small calves due to lack of sufficient muscle mass. Use extreme care when administering this product by intravenous injection. Perivascular injection or leakage from an intravenous injection may cause severe swelling at the injection site.

ADVERSE REACTIONS:

Reports of adverse reactions associated with oxytetracycline administration include injection site swelling, restlessness, ataxia, trembling, swelling of eyelids, ears, muzzle, anus and vulva (or scrotum and sheath in males), respiratory abnormalities (labored breathing), frothing at the mouth, collapse and possibly death. Some of these reactions may be attributed either to anaphylaxis (an allergic reaction) or to cardiovascular collapse of unknown cause.

Norbrook®