

Animal Health Hospital

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TETRADURE 300 **NEW FORMULATION OF OXYTETRACYCLINE**

Merial, the maker of Ivomec has received FDA approval of a new formulation of oxytetracycline called Tetradure 300. This drug has been used in Canada for the last 5 years with excellent results. Some of the oxytetracycline brands we currently have available in the US include LA 200, Biomycin, Oxycure 200 and many others.

There are two primary differences between the oxytetracyclines currently available and Tetradure 300. First the product is 50% more concentrated. Tetradure 300 contains 300 mg/ml of oxytet as compared to currently available products that only contain 200 mg/ml of oxytet. The second difference is the carrier in the drug. It is the carrier in long acting oxytetracyclines that enable these products to give extended days of therapy. Tetradure 300 contains a new, patented carrier that gives longer therapy than the conventional long acting product we are used to. Tetradure 300 can give a duration of therapy of up to 8 days in length. This can be very advantageous in certain situations.

As with many other recently released antibiotics, Tetradure 300 has flexible labeling that allows this product to fit in many different management schemes. It has a dosage range from 9-13.6 mg/lb of body weight. The labeled route of administration is IV, IM or SQ. When it was approved for use in Canada it did not have a SQ claim. Merial went through the costly process of FDA approval for SQ usage. As a result the cost of the product will be somewhat more expensive than the product that has been used in Canada for the last 5 years.

When Tetradure 300 is given at the 9mg/lb (3ml/100 lbs.) rate, the therapy will last for 4 days. When it is given at the maximum rate of 13.6mg/lb (4.5ml/100 lbs) the therapy lasts for 8 days. Tetradure 300 can also be given as a daily injection at 5mg/lb (1.6ml/100 lbs.). The extended therapy only occurs when the product is administered intramuscular or subcutaneous. If it is given by the IV route you will only receive 24 hrs. of therapy regardless of the dosage.

The cost of the 8 day therapy in a 500 lb calf is estimated to be around \$6-\$7. The cost of a 4 day therapy will be around \$4.50 for a 500 lb calf.

Tetradure 300 is labeled for the treatment of BRD and for BRD metaphylaxis. The withdrawal for the product when used according to the label directions is 28 days.

One of the concerns of the product is the potential tissue reaction because it is more concentrated than the oxytet's we currently use. In the tissue studies done by Merial for approval there appears to be little, if any more reaction in the tissue than we see with the traditional long acting oxytetracyclines. These studies actually showed less reaction when given intramuscular than when given subcutaneous.

There are 2 studies published that show that Tetradure 300 can be a cost effective alternative to Micotil as a mass treatment and in certain situations a cost effective therapy for your first line therapy for BRD.

Even though this product will be more expensive than the traditional long acting oxytet's we currently have at our disposal, it may very likely be a more cost effective treatment for Mycoplasma bovis pneumonia. According to Dr. Mike Apley of Iowa State University, the success of treating Mycoplasma is more dependent on "how long you can sit on the bug and not necessarily how hard you hit it". What Dr. Apley means is that a more sensitive drug may not be as cost effective as the less sensitive ones we have now if we use our current therapies long enough. This is true because Mycoplasma is a much slower growing bacteria as compared to the other bacterial causes of BRD. It is this slow growth characteristic that requires longer therapies to succeed. In human medicine physicians will prescribe a minimum of 28 days of therapy to treat Mycoplasmal pneumonia.

Another very important point to consider is the timing of therapy for Mycoplasma. As with any bacterial pneumonia, the earlier the treatment the more successful the outcome. We have found that if you wait until you know you are dealing with Mycoplasma to begin therapy the outcomes are going to be less than desired. This is due to the fact that this bacteria produces a large amount of necrotic material (pus) that then act as a insulating layer protecting it from the antibiotics we administer.

A single injection of Tetradure can "sit" on Mycoplasmal infections for 8 days and if the dose is given early enough in the disease process we should see better responses to Mycoplasmal pneumonia.

Tetradure 300 is a prescription drug and Merial says it should be available possibly as early as the 21st of August.

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