

## **Other Physiological Effects of Equidone<sup>®</sup> (domperidone) in Large and Small Animals**

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Equidone<sup>®</sup> (Equi-Tox, Incorporated, 112 Central Road, Central, SC – 864.646.6443) is an experimental oral paste formulation of domperidone that is undergoing testing for FDA clearance as a prescription veterinary drug for fescue toxicosis in horses (Cross, et al., 1995).

Domperidone has other physiological effects that can be useful in clinical practice. Since domperidone does not cross the blood/brain barrier it does not elicit the neuroleptic side effects like other D-2 dopamine receptor antagonists (Cross, 1997). Although not cleared for human use in the United States, domperidone is approved for human use in many other countries as an anti-emetic and to stimulate gut motility.

### **FOLLICULAR GROWTH**

Brendemuehl and Cross (1997) found that Equidone<sup>®</sup> (domperidone - .55 mg/kg BO, PO, SID) increased follicular growth in seasonally anestrous mares under Alabama conditions. Mean day of ovulation from start of treatment was 51 and 129 days for treated and control mares, respectively. All of the Equidone<sup>®</sup> treated mares ovulated during the treatment period with a mean of 27 days from start of treatment. Domperidone – (1.1mg/kg BW, PO, SID) increased follicular growth, LH and prolactin levels in seasonally anestrous mares under South Carolina conditions (Spell, 1999). Sharp et al. (2000) observed an increase in intra-follicular estradiol levels in seasonally anestrous mares with domperidone treatment. A large Central Kentucky equine veterinary clinic has had considerable success using Equidone<sup>®</sup> (1.1 mg/kg BW, PO, SID) in combination with 1000 mg GNRH, SQ, QID to treat mares that are not developing ovulation size follicles during the breeding season.

### **PRE-MATURE PLACENTAL SEPARATION**

In many instances, E+ fescue grass causes pre-mature placental separation during the last trimester in pregnant mares. Mares usually develop udders early and some leak milk. An ultrasound can verify that separation is occurring. Resident veterinarians at large horse farms in Kentucky and Canada have used domperidone (1.1 mg/kg BW, PO, BID), for those mares, at risk for pre-mature placental separations, for 3-7 days then returning to a single daily dose until the udder recedes and ultrasound suggests recovery.

### **AGLACTIA AND LOW-LEVEL MILK PRODUCTION**

Domperidone has been used to treat several hundred agalactic or low-level milk production mares (1.1 mg/kg BW, PO, BID for two days then 1.1 mg/kg BW, PO, SID, for an additional 5 days or until udder development and milk production

appears normal). Many of these are not fescue mares. Additionally, other small and large animal species (dog, llama, ape, camel, cattle) have responded to domperidone therapy.

### **REFLUX GASTRITIS AND POST SURGICAL GUT MOTILITY**

Domperidone is a prokinetic drug that has been used for reflux gastritis and post surgically to stimulate gastric and lower gut motility in lieu of metoclopramide and cisipride. Cisipride has been recalled due to side effects and is no longer available as a prescription drug. Metoclopramide crosses the blood/brain barrier and can elicit neuroleptic side effects. For reflux gastritis in horses, domperidone is administered at 1.1 mg/kg BW, PO, QID until refluxing ceases, and for post surgical gut motility stimulation at 1.1 mg/kg BW, PO, QID for two to three days, then BID for at least two additional days or until normal gut sounds are obtained. Additionally, domperidone is used to treat nausea and vomiting (Agorastos et al., 1981), gastric (Neuten and Janssen, 1980), and intestinal motility in humans (Balyens et al., 1978).

### **References**

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