DOMPERIDONE

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Domperidone, marketed under the name Equidone®, is a medication in a class known as dopamine antagonists. Dopamine is a brain neurotransmitter that modulates or suppresses production of the hormone prolactin from the pituitary. Domperidone binds to the dopamine receptor and prevents the inhibition of prolactin secretion.

Clinical uses of domperidone in equine reproduction include treatment of fescue toxicosis, stimulation of lactation in agalactic mares, induction of lactation in nurse mares and induction of follicular development in transitional mares.

Fescue toxicosis is a clinical syndrome that may occur when pregnant mares ingest tall fescue grass infested with a specific endophytic fungus. Clinical signs associated with fescue toxicosis include lack of milk production, prolonged gestation, thickened fetal membranes, premature separation of the placenta or 'red bag', retained fetal membranes, abortion, dystocia, reduced fertility and increased neonatal mortality. These effects are due to production of a toxin by the fungus (called ergovaline) which binds to dopamine receptors and suppresses pituitary prolactin secretion.

Management of fescue toxicity may include removal of late-term pregnant mares from affected pastures for the last 2 to 3 months of gestation and/or administration of domperidone beginning 10 to 15 days prior to the expected due date. It is recommended that domperidone therapy be continued until 5 to 10 days after foaling. Treatment with domperidone will prevent or lessen the severity of adverse clinical signs commonly associated with fescue toxicosis.

Failure of udder development and lactation occasionally occurs in late-term or foaling mares not grazing on fescue pastures. Lack of milk production or agalactia is most common in young mares giving birth to their first foal. Failure of the mammary gland to produce colostrum at the end of pregnancy may result in failure of passive transfer of antibodies to the newborn foal. In addition, decreased milk production following foaling will result in inadequate nutrition for the growing foal.

Lactation can often be stimulated in mares with poor milk production by administration of domperidone twice daily for 2 to 4 days and then once daily for the next 6 to 8 days. Domperidone therapy may be initiated prior to foaling if limited mammary development is noted as a mare approaches her due date.

Domperidone has also been used to induce lactation in non-foaling mares to be used for adoption of orphaned foals. Mares that are cycling and have had at least one foal

previously are more likely to respond to treatment regimens designed to induce lactation. Orphaned foals have been successfully fostered to and raised to weaning age by mares induced to lactate. Continued therapy with domperidone for several days after adoption of a foal by a foster mare may be beneficial in maintaining or increasing milk production.

Finally, domperidone has been used to stimulate follicular development and advance the first ovulation of the year in spring transition mares. Treatment of transitional mares with domperidone has been effective in promoting follicular growth in some clinical trials but not in others. Comments regarding clinical response to treatment from owners and veterinarians have also been mixed. It has been hypothesized that domperidone therapy is less effective in inducing follicular development if environmental temperatures are low (i.e. colder climates or mares maintained outdoors) and more effective if mares are under lights.

The most commonly recommended protocol is to begin treatment with domperidone after mares have been under a stimulatory artificial photoperiod for at least 2 weeks.

As always, please consult with your equine veterinarian regarding the safe and effective use of domperidone.