The formula for betamethasone acetate is C\textsubscript{24}H\textsubscript{31}FO\textsubscript{6} and it is methylpregna-1,4-diene-3,20-dione 21-(disodium phosphate).

In offspring, corticosteroids administered to dogs during pregnancy and rodents during gestation have resulted in cleft palate, fetal death, retained placenta, and metritis. This may precipitate premature parturition followed by dystocia, a thromboembolic event associated with prolonged intravenous catheter placement. One BETAVET treated horse was removed from the study for onset of acute non-weight bearing lameness on Day 4. Treatment for presumed joint sepsis was instituted immediately, but the horse was eventually euthanized several weeks later due to a thrombotic event associated with prolonged intravenous catheter placement. One BETAVET treated horse developed bilateral front limb lameness on Day 8, with snow and ice in the stalls prior to this incident. The horse was culled. Appropriate antibacterial therapy should be instituted immediately, due to the potential for exacerbation of clinical signs of infection. The horse was subsequently euthanized. Appropriate examination of joint fluid is necessary to detect corticosteroids, signs of infection in the treated joint may be masked. Appropriate excretion of joint fluid is necessary to detect a surgical process. If a bacterial infection is present, appropriate antibacterial therapy should be instituted immediately. Additional doses of corticosteroids should not be administered until joint sepsis has been definitely ruled out.

Due to the potential for exacerbation of clinical signs of laminitis, glucocorticoids should be used with caution in horses with a history of laminitis, or horses otherwise at a higher risk for laminitis. Use with caution in horses with chronic nephritis, equine pituitary pars intermedia dysfunction (PPID), and congestive heart failure.

Current use of other anti-inflammatory drugs, such as NSADS or other corticosteroids, should be approached with caution. Due to the potential for systemic exposure, concomitant use of NSADS and corticosteroids may increase the risk of gastrointestinal, renal, and other toxicity. Consider appropriate wash out times prior to administering additional NSADS or corticosteroids.

**ADVERSE REACTIONS**

Adverse reactions reported during a field study of 239 horses of various breeds which had been administered either BETAVET (n=119) or a saline control (n=120) are summarized in Table 1. One BETAVET treated horse was removed from the study for onset of acute non-weight bearing lameness on Day 4. Treatment for presumed joint sepsis was instituted immediately, but the horse was eventually euthanized several weeks later due to a thrombotic event associated with prolonged intravenous catheter placement. One BETAVET treated horse developed bilateral front limb lameness on Day 8, with snow and ice in the stalls prior to this incident. The horse was culled. Appropriate antibacterial therapy should be instituted immediately, due to the potential for exacerbation of clinical signs of infection. The horse was subsequently euthanized. Appropriate examination of joint fluid is necessary to detect corticosteroids, signs of infection in the treated joint may be masked. Appropriate examination of joint fluid is necessary to detect a surgical process. If a bacterial infection is present, appropriate antibacterial therapy should be instituted immediately. Additional doses of corticosteroids should not be administered until joint sepsis has been definitely ruled out.

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BETAVET is a potent glucocorticoid steroid with anti-inflammatory and immunosuppressive properties. Depending upon their physico-chemical properties, drugs administered intra-articularly may enter the general circulation because the synovial joint cavity is in direct equilibrium with the surrounding blood supply. After the intra-articular administration of 9 mg BETAVET in horses, there were quantifiable concentrations of betamethasone (above 1.0 ng/mL) in the plasma. Maximum plasma concentrations (Cmax) and time to Cmax (Tmax) values ranged from 3.7 to 3.8 ng/mL and 4.5 to 6 hours, respectively. The effective plasma terminal elimination half-life ranged from 4 to 8 hours. The non-compartmental area-under-the-curve to the limit of quantitation (AUC0-t) ranged from 29.24 to 42.96 hr*ng/mL. In contrast, most of the betamethasone disodium phosphate concentrations and all of the betamethasone acetate concentrations were below the limit of quantification in plasma.

**EFFECTIVENESS**

A negative control, randomized, masked field study provided data to evaluate the effectiveness of BETAVET administered at 1.5 mL (9 mg betamethasone) once every 5 days for 3 treatments. The study was designed with 4 treatment groups of 8 horses in each group. Treatment groups included a control (isotonic saline); 2X (0.045 mg betamethasone per pound bodyweight; BETAVET); 1X (0.0225 mg betamethasone per pound bodyweight; BETAVET); and 4X (0.09 mg betamethasone per pound bodyweight; BETAVET). Treatments were administered by intra-articular injection into the left middle carpal joint once every 5-days for 3 days. Injection site reactions were the most common observations in all treatment groups. Injection site reactions were observed within 1 hour of dosing and included swelling at the injection site, lameness/stiffness of the left front limb, and flexing the left front knee at rest (see table 3). The injection site reactions ranged from slight swelling (in many horses on multiple days in all treatment groups) to excessive fluid with swelling, pain, and lameness (4X group only). Injection site reactions were most commonly on treatment days, and generally decreased in number and severity over subsequent days. The incidence of injection site reactions increased after the second and third doses. The number of abnormal motions on day 10 (5 days post treatment) was greater in the 4X BETAVET group.

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**ANIMAL SAFETY**

A 3-week target animal safety (TAS) study was conducted to evaluate the safety of BETAVET in mature, healthy horses. The study was designed with 4 treatment groups of 8 horses in each group. Treatment groups included a control (isotonic saline; volume equivalent to the 4x group); 1X (0.0225 mg betamethasone per pound bodyweight; BETAVET); 2X (0.045 mg betamethasone per pound bodyweight; BETAVET); and 4X (0.09 mg betamethasone per pound bodyweight; BETAVET). Treatments were administered by intra-articular injection into the left middle carpal joint once every 5-days for 3 days. Injection site reactions were the most common observations in all treatment groups. Injection site reactions were observed within 1 hour of dosing and included swelling at the injection site, lameness/stiffness of the left front limb, and flexing the left front knee at rest (see table 3). The injection site reactions ranged from slight swelling (in many horses on multiple days in all treatment groups) to excessive fluid with swelling, pain, and lameness (4X group only). Injection site reactions were most commonly on treatment days, and generally decreased in number and severity over subsequent days. The incidence of injection site reactions increased after the second and third doses. The number of abnormal motions on day 10 (5 days post treatment) was greater in the 4X BETAVET group.

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**STORAGE CONDITIONS**

Store at 20° to 25°C (68° to 77°F) (See USP Controlled Room Temperature). Protect from light. Use carton to protect contents from light until use.

**HOW SUPPLIED**

BETAVET, One 5 mL vial containing 30 mg betamethasone; packaged in boxes of 1.

**SHAKE WELL BEFORE USING**

NADA 141-418, Approved by FDA

**ART:** R21053-00
**JN:** 244436
**CUST:** PharmaForce
**SIZE:** 5.5 x 13.3
**DE #:** 140108
**CR:** NA

**IN720**

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