



## EQUINE BOTRYOMYCOSIS

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Botryomycosis is a rare, chronic, granulomatous suppurative disorder with the formation of micro-abscessation, generally associated with *Staphylococcus aureus* and occasionally with other bacteria. The pathogenesis involves a delicate balance between agent virulence, bacterial strain, inoculum size, possible presence of foreign bodies and host immune responses. Historically, botryomycosis was mainly recognised as a post-castration complication. Nowadays, however, the cutaneous form, consisting of many small subdermal granulomas is most often encountered. Mammary involvement has been described very rarely in horses. Clinically, botryomycosis is characterized by one or more chronic, discharging skin lesions, with infiltration of underlying tissue, forming nodules and/or suppurative plaques. Long-term treatment solely with broad-spectrum antibiotics is often unrewarding, and so treatment should include the surgical removal of affected tissue. This may need to be repeated, alongside prolonged culture-guided antibiotic administration. The prognosis is guarded.

Two young mares were admitted to Utrecht University Equine Hospital with a history of draining abscessation of the mammary gland. Both had been unsuccessfully treated with broad-spectrum antibiotics for suspected mastitis prior to admission. On arrival both mares had a swollen, painful udder with firm, nodular, ulcerative lesions. Haematology and blood biochemistry were within reference limits. Ultrasonographic showed multiple fluid filled cavities with draining tracts. Culture of aspirated fluid and mammary secretion revealed *S. aureus*. Together with histopathological examination of biopsies this resulted in the tentative diagnosis botryomycosis. Both owners opted for surgical excision. Post-operative management included wound

cleaning, post-operative antibiotic regime and in one case strict pain-management. At follow-up several months later both mares were clinically normal.

## ORAL PREDNISOLONE ADMINISTRATION IN HORSES

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Oral prednisolone is frequently used in dermatological and respiratory treatments. Aims were to study the effects of oral prednisolone on endogenous cortisol concentrations, adrenal suppression and detection time in urine ('doping-positive').

Six horses (3 mares, 3 geldings; 527±94 kg) received oral prednisolone in capsules (1 mg/kg bwt) for 5 days (Day0 - Day4) at 07:30h. Prednisone, prednisolone and cortisol concentrations were estimated for each horse in 65 blood samples collected from 2 days before treatment until Day8.

At 09:00h on Day8 ACTH and cortisol concentrations were determined before 0.25 mg  $\beta^{1-24}$  corticotrophin (Synacten®) was given i.v. Cortisol concentration was determined again at 11:00h (ACTH-stimulation test). Morning-urine samples were collected at 5 and 7 days after the last day of treatment (Day4) and analysed by an official FEI-laboratory.

Maximal mean prednisolone concentration (271±188 nmol/l) was achieved 105 min. after administration (range 15-150 min.) and showed a clear day-night rhythm.

Endogenous cortisol concentrations returned to normal morning values on the 4th morning after the end of the treatment. ACTH-stimulation test was normal in all horses (ACTH concentration 21.3±15.8 pg/ml and cortisol concentrations 143±56 and 394±54 nmol/l respectively).

Prednisone and prednisolone concentrations in the urine 5 and 7 days after the end of treatment were all below limit of detection (LOD). In all horses 20-dihydroprednisolone and 20-dihydroprednisone urine-concentrations were above LOD on 5th day but below on 7th day. In 3 out of 6 horses 20- $\beta$ -dihydrocortisone urine-concentration was still above LOD ('doping positive') on 7th day.

Five-day oral administration of prednisolone only caused temporary disturbance of the endogenous cortisol production; no adrenal suppression was detected. Withdrawal-times in sport horses need further investigation.

## EFFECTIVENESS OF CIMETIDINE MEDICATION ON MELANOMAS IN 40 GREY HORSES

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The melanoma is one of the most common cutaneous tumors in horses and consists mainly of melanocytes.<sup>1,3,4</sup> Common localizations are the perineal and perianal region, the external genitalia and the ventral surface of the tail.<sup>2</sup> Several therapies for the treatment of melanomatosis exist, including the administration of the H2 receptor antagonist Cimetidine. Cimetidine has been found to slow down growth of the primary tumor and preventing disease progression, by acting as an immunomodulator.<sup>3,5</sup> The aim of this study was to try to confirm the positive effects of cimetidine on melanomas in a group of 40 grey horses.

Forty grey horses with ages ranging between 5 and 19 years on the Heilan International Equestrian Club with different degrees of melanomatosis were given Cimetidine (2,5mg/kg/TD) during 90 days in a watery solution in their forage. Every 30 days the size, the localization and the amount of the melanomas of each horse were registered. Differences in number of melanomas

after three months were tested using descriptive statistics and the Wilcoxon signed test. The total surface area was used as the standard for size and was calculated by multiplying the narrowest and broadest point of the melanomas and adding these numbers to give one measurement value per horse per time period. Statistical significance of the total surface area was tested using the linear mixed model method.

In this population of horses 65% had melanomas. After the three months of cimetidine administration a significant growth in number of melanomas was found comparing the first and the last measurement. See figure 1. The total surface area of the melanomas of each horse of the fourth measurement was not significantly different from the total surface area of each horse at the first measurement.

In this study the positive effects of cimetidine on melanomas cannot be confirmed. In contrast, we found an actual growth in number of melanomas after three months of cimetidine administration and did not lead to a reduction of the total melanoma surface area.

## References

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