

METHYLSULFONYLMETHANE (MSM) PROMOTES CLINICAL AND CYTOLOGICAL IMPROVEMENT IN HORSES WITH PULMONARY INFLAMMATION – PRELIMINARY STUDY

Mariana Müller da Silva¹, Yolanda Dufour Eisenbach², Evelyn Medeiros Novicki Durães², Luiz Alexandre Lejambre³, Pedro Vicente Michelotto Júnior⁴

Purpose: The present study aimed to investigate the effects of the methylsulfonylmethane (MSM) on clinical and cytological findings of horses with pulmonary inflammation. **Material and Methods:** 4 geldings, between 8 and 15 years-of-age, median weight of 450kg, from the Military Police of Paraná state (PMPR), Curitiba, Brazil, referred for clinical signs of pulmonary disease (cough, increased respiratory effort) and cytological signs of IAD (n=2) and RAO (n=2), were evaluated. Horses were sedated with acepromazine IM followed by xylazine and butorphanol IV, a Cook® bronchoalveolar lavage (BAL) catheter was used and 300ml of sterile pre-warmed NaCl 0.9% solution with heparin was infused in 2 x 60 ml aliquots and gently aspirated. BAL fluid was immediately analyzed in the laboratory of the Equine Hospital of the PUCPR/PMPR, slides were made with 10µl of the cell pellets, stained with Romanowski and 300 cells were counted at a 1000X magnification. Horses were treated with 80g of MSM (340g of sulphur/kg of MSM) PO once a day, for 12 consecutive days and were reevaluated on day 13. Data were analyzed with Mann Whitney test and values were expressed as mean ± SEM. P<0.05 was considered significant. **Results and Discussion:** The treatment with MSM suppressed the cough and improved the respiratory pattern and auscultation in all cases. Total nucleated cell counts significantly decreased after the treatment (12.0 ± 2.1 vs. $3.4 \pm 0.6 \times 10^6$ cells/ml of BAL fluid, P<0.01) and there was a significant increase in the percentage of alveolar macrophage ($12.0 \pm 2.1\%$ vs. $47.8 \pm 6.2\%$, P<0.05). There was no difference in the percentage of neutrophils even though there was a treatment-induced reduction of 58.6% ($33.3 \pm 11.3\%$ vs. $13.8 \pm 6.9\%$). **Conclusion:** the results of the present study suggest that MSM is a promising medication for inflammatory pulmonary diseases in horses and there is a need for further

¹ DVM, resident of the Equine Hospital – Pontifícia Universidade Católica do Paraná - PUCPR. E-mail: mari.mm.s@gmail.com

² Graduate student, Veterinary Medicine, PUCPR

³ DVM, Curitiba - Paraná

⁴ Professor, Centro de Ciências Agrárias e Ambientais – PUCPR. E-mail: michelottojunior@yahoo.com.br

studies.

¹ DVM, resident of the Equine Hospital – Pontifícia Universidade Católica do Paraná - PUCPR. E-mail: mari.mm.s@gmail.com

² Graduate student, Veterinary Medicine, PUCPR

³ DVM, Curitiba - Paraná

⁴ Professor, Centro de Ciências Agrárias e Ambientais – PUCPR. E-mail: michelottojunior@yahoo.com.br