Effectiveness of Cleaning and Bacterial Growth in the Equine Sheath

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A horse's sheath often contains a waxy build-up of smegma. This study is designed to determine if cleaning negatively affects the horse and determine if there are anti-microbial peptides in the smegma that are removed after cleaning the sheath. Nineteen horses were used in the experiment and divided into 4 groups: control, water rinse, Excalibur and baby shampoo. Horses were swabbed before cleaning and after cleaning. The swabs were inoculated on 3 different medias; MacConkey, Pseudomonas Isolation and Nutrient. The plates were incubated for 48 hours at 37° C and bacteria colonies were counted. Cleaning and testing was done 3 times with 3 weeks between cleanings. Each horse had significantly less bacterial growth before cleaning than following cleaning. The samples ranged from 10 times to 100+ times more bacteria after cleaning. The horses cleaned with Excalibur had the most increase in bacterial numbers. The horses cleaned with water had the least bacterial number increase. In subsequent cleanings, there was an increase in the number of bacteria both before and after cleaning as compared to the first cleaning. Smegma fully returned in the 3 weeks between washing. The bacteria identified did not pose a direct threat to the horses but some were related to urinary tract infections and were not natural. Smegma was collected for protein isolation. One gram of smegma was used and proteins were extracted using Qproteome Mammalian Protein Preparation kit. The proteins were analysed using SDS-PAGE. The proteins isolated were estimated to have molecular weights of 39 to 60. Experiments are in progress to test the proteins for anti-microbial properties and identification. It is possible that the smegma and bean serve as physiological advantage. The secretions form as a response from the skin of the sheath. It is possible smegma protects against pathogens. Cleaning the sheath can cause a response from the body increasing smegma build-up. Cleaning the sheath and removing a bean from the urethra may be unnecessary and cause irritation. This is supported by observations collected by Dr. Susan McDonnell at the New Bolton Center, University of Pennsylvania, United States. Five stallions coming from the feral heard and castrated from 3-5 years prior examination and 2 stallion castrated 8 weeks prior examination were found without bean or malodorous smegma build-up. The geldings have not had any attention to their penis since birth. This concludes that smegma problems may result from human contact with the sheath.

LP: Cleaning a horse's sheath causes an increase of bacteria, is unnecessary and removes important anti-bacterial proteins from the sheath.