Wound management of a pregnant Belgian blue cow with severe toxic cutaneous necrosis

2 affecting the limbs.

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Wound management in cattle remains a challenge for many reasons. First of all, the major reason is the economic limits in livestock. Then, wound management requires a cooperative patient and maintaining a clean environment, which may be challenging especially when extremities are involved. Finally, the products available and authorized for the treatment of livestock animals become rare. We herein report the wound management of a pregnant Belgian blue cow, which presented severe skin necrosis of the four limbs secondary to a prolonged stay in a river.

A four-year-old pregnant Belgian blue cow was presented to the clinic for Ruminants for lameness and edema affecting the four limbs. The day before, the cow got stuck in a river for about 10 hours. The initial clinical examination revealed tachypnea, tachycardia, congestive mucous membranes, severe edema of the four limbs and reluctance to move. After clipping and cleaning the limbs, the skin appeared grey. A loss of sensitivity was present from the claws to the carpus/tarsus. The cow was very painful and trampled all the time. A combination of opioids and NSAIDs was administered for analgesia as well as broad-spectrum antibiotics. Hydrotherapy alternating hot and cold water was also initiated. At day 9, the necrotic skin started to slough spontaneously. Lavage was performed twice a day using warm 0.05 % diluted chlorhexidine solution. Devitalized tissue was manually removed during each lavage and wet-to-dry bandages were applied during the all debridement process. Granulation tissue was however not healthy and Debrisoft® sponges (Lohman

& Rausher) were used to eliminate superficial necrotic tissue, bacteria and debris. Silver sulfadiazine dressings were then applied once a day. At day 22, healthy granulation tissue was covering the entire wound surface and the epithelialization process was progressing. Vaseline dressings containing 10 % diluted povidone iodine were applied on the wounds until complete epithelialization occurred at day 135. During hospitalization, a high-protein diet was administered to optimize healing and to maintain pregnancy. After five months, a hairless completely epithelialized tissue was present and the cow returned to her exploitation. She gained 30 kg in weight during the process and she calved of a healthy male calf weighting 43 kg, 22 days after the expected calving date.

We herein report the successful treatment of a pregnant cow with severe toxic cutaneous necrosis of the limbs. The most likely etiology of these lesions seems to be a prolonged contact with chemically contaminated water of the polluted river. The complete healing process, in this case, took 4 months. Little information is available in the literature regarding wound management in cattle due to the usual reluctance of owners to treat those extensive wounds. Treatment decision takes into account favorable prognostic elements (pregnancy, no alteration of the hoof, and carcass price of the cow) and negative ones (extended lesions, financial costs). Nutritional support, analgesia and maintaining the cow in a clean environment contributed to the successful outcome. The favourable outcome reported in this pregnant cow shows that extensive wounds may be successfully managed in cattle using available products.