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

C. GAILLOT, S. CLEAYS, F. DOUFFET, V. FRISSE, L. THERON, K. TOUATI, A. SARTELET

1 Clinic for Ruminants, Faculty of Veterinary Medicine, University of Liège, Belgium
2 Small Animal Surgery, Faculty of Veterinary Medicine, University of Liège, Belgium
Corresponding author: claire.gaillot@ulg.ac.be

A. INTRODUCTION

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 of the limb requires cooperative patient and to maintain a clean environment, especially concerning limb extremities. And finally, the products available and authorized for the treatment of livestock animals become rare [1,2].

B. CASE REPORT

Patient
A four-year-old Belgian blue cow, weighing 526 kg and 6 months pregnant (Fig. 1).

Initial clinical examination
Tachypnea, tachycardia, congestive mucous membranes, Severe edema of the four limbs, reluctance to move.

After clipping and cleaning of the limbs
Swollen and grey skin with a loss of pain sensation between the claws and carpus/talus were observed. The cow was very painful and trampled all the time (Fig. 2).

History
The patient was presented to the Clinic for Ruminants for lameness and edema affecting four limbs. The day before, the cow was stuck in a river «Geer» for about 10 hours. General status was good when she came back at the farm, but the four limbs were swollen (Fig. 1).

C. TREATMENT

General
- Broad-spectrum antibiotics (Penicillin, 20.000 UI/kg, 5ID, 2 weeks), combination of opioids and NSAIDs were administrated.
- Enriched protein alimentation to optimize healing and pregnancy

Local
Day 2 to day 9: Hydrotherapy alternating hot and cold water (Fig. 4A). Day 9 to day 22: Debridement when grey skin started to spontaneously come off, lavages twice a day with 0.05 % diluted chlorhexidine lukewarm water, mechanical debridement (surgical and Debriso® sponges) and wet-to-dry bandages (0.05 % diluted chlorhexidine) were performed until complete granulation (Fig. 3 & 4B).
Day 22 to the end of epithelialization: during granulation stage and epithelialization process: bandages with vaseline with 10 % diluted providone iodine (Fig. 4C).

D. OUTCOME

After five months, a hairless completely epithelialized tissue was present and the cow returned to the farm (Fig. 5A). She gained 30 kg in weight during the process and she calved of a healthy male calf weighing 43 kg, 22 days after the expected calving date (Fig. 5B).

E. DISCUSSION

We herein report the successful treatment of a pregnant cow with severe toxic cutaneous necrosis of the limbs. The most likely aetiology of these lesions seems to be a prolonged contact with chemically contaminated water of the polluted river. The complete healing process took 4 months.

Little information is available in the literature regarding wound management in cattle due to the usual reluctance of owners to treat these 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.

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REFERENCES


A Hydrotherapy
B Debridement
C Reparation stage: granulation and epithelialization

Day 8 Day 9 Day 17 Day 35 Day 69 Day 108 Day 132 Day 150

Fig. 1: Upon arrival, the four limbs were swollen and with a grey skin
Fig. 2: Fore and hind limbs showing grey skin and severe edema.
Fig. 3: Everyday, bandages were performed by the students and the staff.