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

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## 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, wheighing 526 Kg and 6 months-pregnant (Fig. 1).

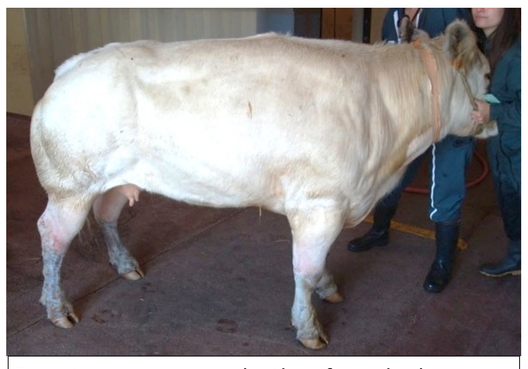

Fig. 1: Upon arrival, the four limbs were swollen and with a grey skin

### 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).

### 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).

Fig. 2: Fore and hind limbs showing grey skin and severe edema.

## C. TREATMENT

### General

- Broad-spectrum **antibiotics** (Penicilline, 20.000 UI/kg, SID, 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 spontaneoulsly come off, lavages twice a day with 0.05 % diluted chlorhexidine lukewarm water, mechanical debridement (surgical and Debrisoft® sponges) and wet-to-dry bandages (0.05 % diluted chlorhexidine) were performed until complete granulation (Fig. 3 & 4B).

**Day 22 to the end of epithaliazation** : during granulation stage and epithelialization process: bandages with vaseline with 10 % diluted povidone iodine (Fig. 4C) .

Fig. 3: Everyday, bandages were performed by the students and the staff.

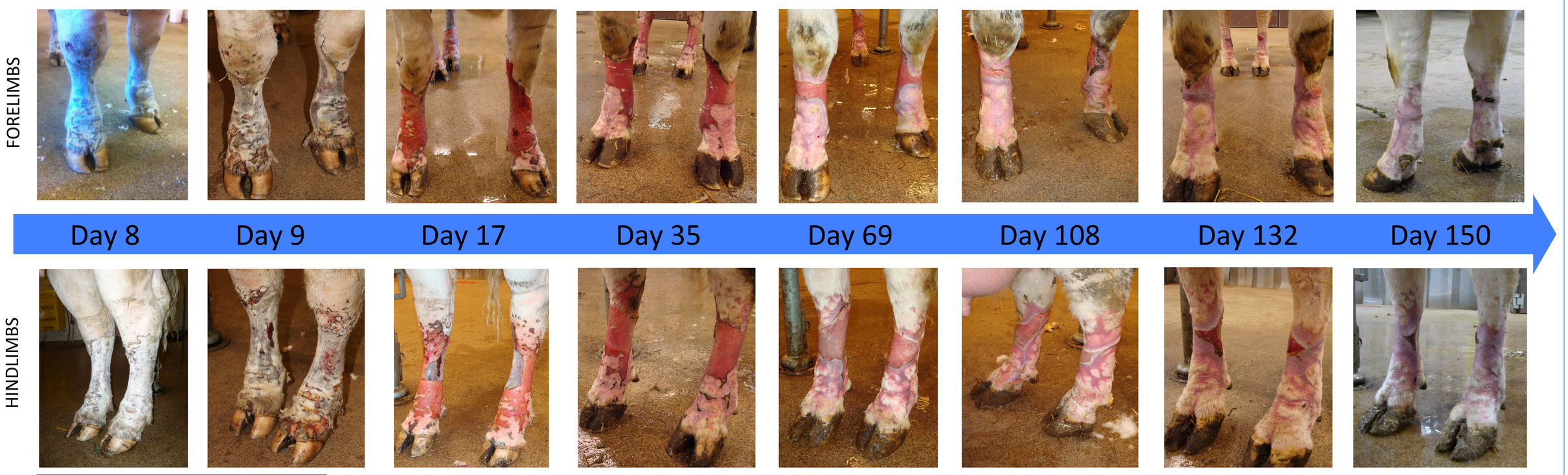


Fig. 4: Evolution and stages of healing.

## 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 weighting 43 kg, 22 days after the expected calving date (Fig. 5B).



Fig. 5: A. The cow at the end of the treatment just before discharged from the clinic and B. at the birth of the healthy male calf weighting 43 kg at birth.

## 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 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.

## REFERENCES

**1.** Weaver A. D, St Jean G., Steiner A. (**2005**). Wound Treatment, chapter 1. In *Bovine Surgery and Lameness*. Second edition. Blackwell publishing edition.

**2.** Fubini S., Ducharm N. (**2004**). Wounds, Chapter 8. In *Farm Animal Surgery*. Saunders Edition.

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