EPIDEMY OF BOVINE CUTANEOUS AND UTERINE BOTRYOMYCOSIS AFTER CESAREAN SECTIONS

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Belgian blue cattle breed is well known for the intensive selection for extreme muscular development. One of the drawbacks of this selection is the almost systematic and the elective (early stage of the calving and without traction) use of cesarean section (C-section) for calvings. Wound infection of the C-section site, generalized or local peritonitis, chronic adhesions of the uterine horn or the rumen and parietal aseptic fibrinous peritonitis are common complications observed in bovine practice after C-sections. We herein describe outbreaks of wound and uterine actinobacillosis after C-sections in a private bovine practice.

In December 2014, the Clinic for Ruminant was contacted by a practitioner for numerous surgical wound complications and repeat breeding in cows after calving. Tumefaction and then granulomas appeared at the C-section site about 6 weeks after C-sections performed between the end of August 2014 and January 2015. According to the practitioner, wound complications occurred in about 90 cows out of approximately 350 C-sections in 13 herds during this period. Broad-spectrum antibiotics and/or surgical debridement were not efficient. Regarding the C-section, there were no recent significant changes in the surgical technique, nor in the material and the drugs used. There was no major technical error in the C-section performed by the practitioner and no complications were observed in the immediate postoperative period.

Three out of 13 affected herds were completely investigated regarding health status, nutrition including minerals and trace elements complementation, and housing before, during and after the C-sections between January and March 2015. Clinical examination and rectal palpation were performed on the cows that calved between the end of August 2014 and January 2015. One uterine and 5 wound biopsies were performed and submitted for bacteriological, mycological and histological examination.

In herd # 1, general clinical examination of 53 cows revealed no abnormality. Regarding wound complications, 13 cows exhibited only a swelling of the abdominal wall incision, 13 a small granuloma (< 5 cm), 6 a large granuloma (> 5 cm) and 21 presented no lesion. At rectal palpation, one or many parietal granulomatous (1 to 25 cm of diameter) lesions were present on the uterine suture. Direct bacteriological examination was negative. Histological examination of three wound biopsies revealed an inflammatory pyogranulomatous proliferation with necrotic spots centered on bacterial colony surrounded by “club” shape eosinophilic aggregates typical of Splendore-Hoeppli material. One bacteriological culture was positive for *B. licheniformis*, one positive for *P. aeruginosa* and one positive for *E. coli* and *S. chromogenes.*

In herd # 2, general clinical examination on 50 cows was within normal limits. Five exhibited a swelling or a granuloma on the wound and 20 presented a uterine granulomatous lesion. One was euthanatized and wound and uterine biopsies were performed. Direct bacteriological and mycological examinations were negative. Histological examination of the samples was similar to the previous ones. Bacteriological culture yielded only *P. aeruginosa*.

An additional biopsy performed on a third farm gave the same results with a bacteriological culture positive to *P. aeruginosa, F. necrophorum* and *C. perfringens.*

Histological and bacteriological examinations were compatible with botryomycosis. Botryomycosis is a chronic, granulomatous, infectious disease caused by several genera of bacteria with the formation of grains. Pathogenesis is not well understood but is often associated with low virulence pathogens, immune deficiency and trauma or surgery (Padilla-Desgarennes C. *et al, 2012*). Botryomycosis is sporadically observed in cattle and often associated with *P. aeruginosa* (Thompson *et al.,* 2001; Spagnoli S. *et al*, 2012). To our knowledge, one similar case report was described in the nineties by de Kruif *et al* (1992). Unfortunately, *A. lignieresii* was not identified even though histological lesions were similar to de Kruif's observations. The origin of this contamination remains unknown but C-sections are clearly a predisposing factor. Improvement of biosecurity with the use of disposable materials during C-sections seems to avoid outburst of new cases.

de Kruif A., *et al.*, Actinobacillosis in bovine caesarean sections. *Veterinary Record,* 1992, 131: 414-415.

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