Twin Fetal Maceration in a Cow Associated With Persistent Corpus Luteum and Closed Cervix

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Fetal maceration in the cow that occurs after the third month of gestation, when fetal bones are fairly well developed, and that may be caused by wound infection type bacterial agents, especially *Corynobacterium pyogenes*, progressing to septic metritis with death and maceration of the fetus in a closed uterus, is uncommon.[1] In other circumstances,[2] fetal death with maceration in cattle is usually accompanied by regression of the corpus luteum (CL) with opened cervix. In two previous surveys, in which we studied the gross lesions of bovine reproductive tracts, we did not encounter any case of fetal maceration.[3,4]

This report provides macroscopic description of a case of twin fetal maceration in the cow associated with persistent corpus luteum and closed cervix.

The reproductive tract of a cow was presented for investigation of infertility problems in cattle based on morphological changes in the genital system. This was done as part of a large study aimed at assessing the incidence and types of macroscopic lesions in the reproductive tracts of Friesian cows in Jordan (Fathala and Hailat, in preparation). Grossly, the uterine horns were both distended, resembling those of a four month old pregnancy. On palpation, the uterine contents were filled

Figure 1.

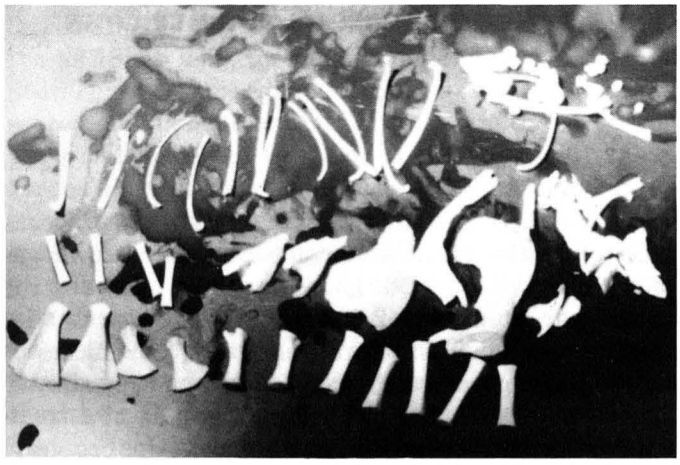
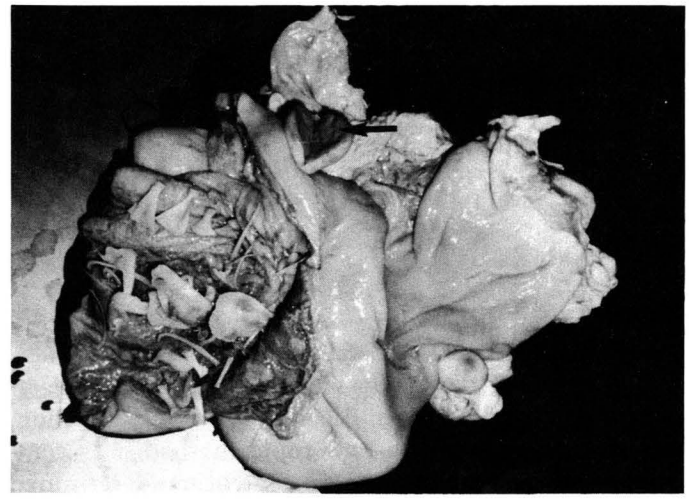


Figure 2.



with fluctuating fluid but no fetus could be detected. Instead, there were rough crepitating materials. Upon dissection of the uterine horn, approximately two liters of viscid, mucoid, straw colored, odorless fluid were emptied, leaving bony fragments behind in the right horn (Fig. 1). Examination of the bones revealed two pairs of skeletal bones of large and small sizes. All bones were found in the right horn. The endometrium was discolored with no visible caruncular areas left. The uterine wall appeared to be thickened. The cervix was tightly closed, felt adhered by traumatic scars and a small amount of thick purulent material squeezed out when pressed between the fingers. A large (2.5 cm diameter) persistent corpus luteum was present on the right ovary and a follicle (1.5 cm diameter) was on the left ovary, (Fig. 2).

We believe that these findings are different in many aspects from those described previously; 1. In this case, bones of two macerated feti of different sizes were found in one horn. 2. The presence of persistent CL in the right ovary which resulted in a tightly closed cervix and a failure of abortion. 3. The uterine horn had mucoid, straw-colored materials with no foul smell, suggesting

no apparent infection.[5] The possibility that the cow had ovulated at some stage after the first conception had died *in utero* is unlikely.[6] We propose that these two feti originated from a single ovulation (monozygotic),[1] although superfetation has been speculated in bovine animals,[6,7] but is highly doubtful. The cause of death and maceration of the two feti perhaps was the lack of space in the right horn. However, the possibility of venereal disease as a cause for this condition cannot be excluded since cattle in Jordan are bred naturally.

References

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Abstracts

A rapid method for determination of blood glucose concentration in cattle

B.L. Roeder, *et al.*
J. Am. Vet. Med Assoc. 1996; 208: 707-710.

Paired blood samples were collected from 28 Holstein calves and 34 cows. Blood glucose concentration, determined by use of a new rapid method, was compared with plasma glucose concentration, determined by use of a conventional, laboratory-based method. Calves had significantly higher glucose concentrations than did cows, but the relationship between results of the 2 methods was not different for calves versus cows. Also, PCV of the samples did not interfere with the relationship between results of the 2 methods.

Results of the 2 methods were highly correlated, but measured plasma glucose concentrations was significantly higher than the measured blood glucose concentration. The good correlation between results of the 2 methods and the comparable precision estimates indicate that the rapid method of determining blood glucose concentration is a valid technique in cattle.

Intramuscular administration of ceftiofur sodium versus intramammary infusion of penicillin/novobiocin for treatment of *Streptococcus agalactiae* mastitis in dairy cows

R.J. Erskine *et al.*
J. Am. Vet. Med. Assoc. 1996;208: 258-260

To determine the efficacy of intramuscular administration of ceftiofur sodium as part of a treatment program for dairies with high prevalence of *Streptococcus agalactiae* mastitis, 36 infected Holstein cows were treated with ceftiofur (2.2 mg/kg of body weight, IM, q 24 h) for 5 days. An additional 36 infected Holstein cows were treated by intramammary infusion of 150 mg of novobiocin and 100,000 U of procaine penicillin G in each mammary gland daily for 2 days.

The cure rate at 4 weeks (91.7%) and 8 weeks (96.8%) for the penicillin/novobiocin-treated cows was significantly ($P < 0.0001$) higher than that for the ceftiofur-treated cows (2.8 and 9.1%, respectively). Intramuscular administration of ceftiofur is not efficacious in eliminating intramammary infections caused by S. *agalactiae* and should not be used as part of a treatment program to reduce the prevalence of this organism in dairy herds.