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Foetal maceration associated with *Brucella ovis* infection in a Yankassa ewe

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Abstract

A ewe considered to have been pregnant but later observed to have persistent vaginal discharge and deteriorating body condition was presented to the Ahmadu Bello University Veterinary Teaching Hospital Zaria, Nigeria. The ewe died before a complete physical examination was carried out and commencement of therapy. At postmortem, the greatly asymmetric gravid uterus cut open had retained foetal bones and well – developed freshly - looking caruncles and lots of pus. The ipsilateral ovary of the pregnant horn had a corpus luteum (CL). Direct microscopic examination of uterine sample revealed microorganisms suggestive of *Brucella* organism; and subsequent culture of same confirmed the presence of *Brucella ovis*. The foetal death and/or maceration were therefore believed to be associated with the *Brucella ovis* infection.
Introduction

In domestic animals, pregnancy loss may occur at any stage of gestation (1). The loss may be associated with expulsion of the dead foetus before term (abortion) or of a fully developed but dead fetus at term (stillbirth). Sometimes, there is the failure of an aborting foetus to be expelled due perhaps to uterine inertia and intrauterine infections resulting in foetal emphysema and maceration (2). Under the circumstance, bacteria enter the dilated cervix and by a combination of putrefaction and autolysis the soft tissues are digested, leaving a mass of foetal bones within the uterus (3, 4). These bones may be embedded within the uterine wall (5, 1) resulting in a chronic endometritis and severe damage to the endometrium (5).

Foetal maceration can occur in any species, but it has been most frequently reported in cattle (1). The condition has been reported in cows (4), mares (6), dogs (7, 1), cats (8), and women (9, 10). Only few cases of foetal maceration have been reported in ewes (11, 12); and in Nigeria, to the best of the knowledge of the researchers, foetal maceration has not been previously reported in the ewe. This report is therefore a documentation of this condition in a ewe which was associated with *Brucella ovis*.

Case History

A ewe was presented to the Ahmadu Bello University Veterinary Teaching Hospital Zaria with the complaint of persistent vaginal discharge and unthriftness condition. The ewe was reported to have been pregnant prior to the development of this condition. On physical examination, the vital parameters of temperature, respiratory rate and pulse were normal. Scanty foul – smelling vaginal discharges were seen. The ewe occasionally strained and her physical body condition was poor. Before the completion of physical examination and commencement of therapy, the ewe died. At postmortem, there was a greatly asymmetric gravid uterus with single pregnancy in the right horn (Figure 1). The uterus was cut open and retained foetal bones and well – developed freshly - looking caruncles were seen (Figure 2). A lot of pus material was present in the uterus. The ipsilateral ovary of the pregnant horn had a corpus luteum (CL). An aseptic uterine swab was taken. Direct microscopic examination of the sample revealed microorganisms suggestive of *Brucella* organisms; and subsequent culture confirmed the presence of *Brucella ovis*.
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http://www.veterinaria.org/revistas/redvet/n030311/03118.pdf
Foetal maceration, together with foetal mummification, are considered an overall abortion syndrome rather than separate and distinct entities, the main characteristic being that the dead foetus remains in the uterus requiring veterinary intervention for removal (5). When foetal death is accompanied by loss of corpus luteum, opening of the cervix and entry of autolytic and other bacteria, there is foetal decay in the uterus, and its soft tissues broken down and passed as a foul vaginal discharge. In most cases, the bones are too large to be passed out and are therefore retained within the abdomen naturally preventing subsequent conception (13). The condition can occur in full term fetuses that fail to leave the uterus and this occurs especially in sows (13).

The retention of foetal bones in utero or in the vagina has been reported in cows (4), mares (6), dogs (7, 1), cats (8), and women (9, 10). In the ewe, few cases have been reported (11, 12). The incidence of foetal maceration in ewes is considered to be as low as 0.13 – 1.8% (14). In Nigeria, foetal maceration has not probably been reported in the ewe before, and thus this report may be the first to be so reported.

The clinical signs seen in foetal maceration include foul – smelling vaginal discharge in animals that were thought to be pregnant, sharp bones in the uterus or protruding from the cervix during rectal palpation (13), and can be used for the diagnosis of the condition. The observation of scanty foul – smelling vaginal discharge in this case is thus in agreement with the above observation. The presence of pus material seen in the uterus in this case is also in agreement with the finding of Halat et al. (11). Foetal maceration is usually associated with the loss of CL (13). In this case however, just as reported by Halat et al. (11), there was the retention of CL.

The diagnosis of this condition was as a result of the observation of foetal bones, in the uterus, asymmetry of the uterus, presence of caruncles. In live animals, the condition can be detected by ultrasonography and X – ray radiography (13, 1), and the by rectal palpation especially in large animals.

In the literature, non – specific bacteria including E.coli, streptococci, Proteus and Pseudomonas have been associated with the foetal maceration (15). In this case, the isolation of Brucella ovis means that either the B. ovis was in itself the cause of both the abortion and maceration or an earlier abortion due to some other cause took place.
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with the entry of the organism to cause the maceration. *B. ovis* is associated with ovine abortion, even though the incidence of abortion due to this organism is low (14). Due to the zoonotic significance of brucellosis (16), the handling of aborting animals and their discharges due to this organism should be done with the utmost care and precaution. Abortions usually occur the last trimester of pregnancy. The prognosis for future fertility and reproductive life of the affected animal is guarded.

It is possible that there are cases of foetal maceration in ewes and other livestock in the area which go unnoticed or undiagnosed. It is therefore suggested that veterinarians pay more attention to the possibility of this infertility condition in our livestock.

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**References**

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