

Vol. 13 (1): 169-178 (2023)

DIAGNOSIS OF EQUINE POST-BREEDING ENDOMETRITIS: ULTRASONOGRAPHY, MICROBIOLOGY, CYTOLOGY, AND CORRELATION TO FERTILITY IN TIARET REGION, WESTERN ALGERIA

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Received October 2022; Accepted November 2022; Published January 2023;

DOI: <https://doi.org/10.31407/ijeess13.121>

ABSTRACT

Post-breeding endometritis is one of the most frequent problems of infertility in mares, and it can be difficult to treat and result in significant economic loss. The objective of this study was to diagnose post-breeding endometritis (PBIE) in order to avoid chronic endometritis, to identify the risk factors, and examine the relationship between pregnancy results and the presence of inflammation detected by ultrasound, cytology, microbiological culture, and progesterone measurement. The overall of the 15th mares aged between 4 and 20 years old were randomly selected from the 100 mares examined during the 2022 breeding season. Transrectal ultrasonography (B-mode) was used to examine the mares, when a follicular diameter of at least 35 mm was observed, the first sample was taken 24 hours before mating or artificial insemination, the same sample was taken 6 and 48 hours after including low volume uterine lavage for microbiology, blood sample for progesterone measurement and uterine cytology with a cytobrush. Pregnancy rate was 40%, and plasma concentration of progesterone (P4) was increasing during the 3 samples and less than 1 ng/mL. PBIE was detected by ultrasonography, the presence of fluids 48 hours after mating only in 3 mares with a degree ≥ 2 . Cytology was negative before mating in all mares, a polymorphonuclear neutrophil (PMN) peak was encountered at 6h and the PMN number disappeared at 48h except in the mares where uterine fluid was present and PMN number was >5 by field. Finally microbiology showed the presence of many microorganisms in mares with PBIE and even with no PBIE, and antimicrobial susceptibility were evaluated, the mares developed antibiotic resistance and no antibiotics were effective. These observations showed that PBIE is one of the factors causing infertility to which attention should be paid, ultrasound and cytology are good means of diagnosing it, microbiology helps in the treatment.

Key words: post-breeding endometritis, infertility, cytology, microbiology, ultrasonography.