Acta Scientific Veterinary Sciences (ISSN: 2582-3183)

Volume 4 Issue 5 May 2022

Opinion

Sub-Clinical Endometritis: A Silent Hurdle of Fertility

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DOI: 10.31080/ASVS.2022.04.0388

Received: April 8, 2022

Published: April 22, 2022

Subclinical endometritis, also known as cytological endometritis, is a potential hidden determinant that has been shown to produce notable reductions in the reproductive performance of the dairy cow in the current days. It is manifested by uterine inflammation with the accumulation of scanty exudate in the uterine lumen devoid of any signs.

Placental retention, mastitis, hypocalcemia, dystocia, aided calving, twin births, and mineral deficiencies such as Cu, Zn, and Fe predispose the animal to develop the syndrome. In addition, pathogens enter the uterus via the vaginal pathway, where they infect the uterus.

It could also exist in clinically normal cows however it is a subclinical condition. As a matter of fact, it is the most problematic task for animal practitioners as many of the infected cows are normal without any obvious evident clinical signs. Because of its silent nature, prolonged existence makes the cow at risk of acquiring 'Repeat Breeding Syndrome'. As the animal's fertility has been compromised, subsequent conception will be hampered. Failure of conception will eventually have an impact on milk production. As an outcome, it opens up a crucial financial threat to the rural farming community as well as the dairy industry.

Therefore, it must be diagnosed at the appropriate time to avoid much more consequences. The presence of a high number of polymorphonuclear cells in cytological isolates obtained from the uterine lumen is a significant diagnostic criterion. However, the proportion varies depending on the days after postpartum. Uterine lavage and uterine biopsy samples can also be used to detect it.

Enhancing uterine defense and repair mechanisms is a novel therapeutic strategy for subclinical endometritis. Antimicrobials could be infused with antioxidant, intrauterine, and immunomodulatory drugs could be included in the feed. The immunostimulatory effect of co-cultured bovine endometrial epithelial cells and *Lactobacillus sp.* has recently been demonstrated. Prior identification of risk elements, timely diagnosis, and meticulous treatment can reduce the occurrence of economic loss and safeguard the animal's fertile status.