

HISTOPATHOLOGICAL CHANGES OF THE ENDOMETRIUM AND ANTIMICROBIAL SUSCEPTIBILITY OF AEROBIC BACTERIA ASSOCIATED WITH ENDOMETRITIS OF DAIRY COWS

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Repeat breeding is one of the causes of low success rates in artificial insemination both in small holder and large farm situations. Isolation of bacteria along with histopathological studies of uterine endometrium by biopsy is known to be of paramount importance in the diagnosis and rational treatment of repeat breeding animals. The present study was carried out with objectives of identifying histopathological changes associated with bacterial endometritis of dairy cows and antimicrobial susceptibility of causative aerobic bacteria. Seventy six animals were randomly selected for the study awaiting slaughter at Kandy abattoir. The incidence of bacterial endometritis in this sample was 9 % (7/76) and of them only 43 % (3/7) were detected by clinical assessment. The incidence of bacterial endometritis of *Bos indicus* animals was low (3 %) compared to that of *Bos taurus* (28 %) animals.

Based on pathological findings the degree of endometritis was categorized into mild, moderate and severe. Changes of mild endometritis included moderate infiltration of neutrophils and lymphocytes in the functional and basal layers of endometrium with degeneration and necrosis of some endometrial glands. In moderate endometritis there was a dense infiltration of neutrophils, lymphocytes and plasma cells in the stroma and glands coupled with moderate to extensive degeneration and necrosis of the lining epithelium of the surface and glands. In addition to these changes periglandular fibrosis as well as some cystic glands were observed. In severe endometritis gross lesions such as thickened rough mucosa often with adherent shreds of fibrin and necrotic debris were clear. The type of histopathological changes observed was more or less similar to that of moderate endometritis with the exception of the degree.

The seven cases of bacterial endometritis yielded in 18 isolates such as *Staphylococcus* 5 (28 %), *E.coli* 4 (22 %), *Micrococcus* 3 (17 %), *Bacillus* 3 (17 %), *Pseudomonas* 1 (6 %), *Corynebacterium* 1 (6 %) and *Streptococcus* 1 (6 %). The antimicrobial susceptibility testing revealed that most of the organisms were resistant to penicillin G (77 %) and ampicillin (80 %). A number of organisms showed resistance to tetracycline (22 %), trimethoprim and sulphonamide (8 %) and nitrofurantoin (11 %). No organisms showed resistance to gentamicin. Indiscriminate use of antimicrobials without resorting to susceptibility testing might have resulted this antimicrobial sensitivity pattern.

The Present study recommends a comprehensive approach towards treating bacterial endometritis in cattle giving due emphasis to histopathological findings and antimicrobial susceptibility testing.

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