EPIDEMIOLOGICAL SURVEY ON UTERINE ISOLATES IN COWS WITH PUERPERAL METRITIS

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Reproductive management and hygiene around parturition have a key role in dairy cattle health and productivity. Commonly uterine infections develop after parturition and can cause metritis with possible detrimental effect on future conception and incoming lactation. However, metritis is not a direct consequence of uterine infection since bacterial clearance usually happens. Consequently a variable percentage of cows within a herd experiences an uterine disease. This work describes the etiology of 63 cases of metritis recognized on the basis of clinical evaluation. Cows belonged to 14 herds, most were of first and second parity and were sampled within 21 days after parturition. Uterine samples were obtained through sterile double-guarded swab devices (Equivet, Marslev, Denmark), conserved in opportune medium at 4°C and processed within 24 hours. The swabs were inoculated onto sheep blood agar, Schaedler blood agar, Chromocult and MacConkey agar added with ceftiofur, tetracycline, kanamycin and enrofloxacin in order to identify resistant enterobacteria. All media plates were incubated aerobically for 24 hours at 37°C, while Schaedler blood agar was incubated in anaerobiosis for 48-72 hours. Identification was performed according to growth appearance, Gram-stain and API Systems (BioMerieux, France). The most frequently isolated pathogen was Escherichia coli (37/63), followed by Arcanobacterium pyogenes (18/63), anaerobes (18/63) and Streptococcus uberis (17/63). Other streptococci (S. dysgalactiae, S. bovis, Aerococcus viridians, Enterococcus faecalis) were isolated in 16 cases while in one case Proteus mirabilis was identified. In five samples, in pure culture or in association with other bacteria, Abiotrophia adiacens was identified. One swab showed a bacterial overgrowth and was excluded due to contamination, while two swabs showed not significant growth. Mixed infections resulted quite common as 28 and 8 samples revealed the growth of two and three microorganisms respectively. The most frequent bacterial associations are E. coli - A. pyogenes and E. coli - streptococcus spp., both in 9 samples out of 28. Eleven out of 37 samples positive for E. coli (29.8%) demonstrated some antimicrobial resistances. Two were resistant to the aminoglicoside only, four to aminoglicoside and tetracycline and three were resistant to cefotiofur in addition. Two E. coli strains included enrofloxacin in their resistance profile, one of which was however sensible to cefotiofur.