

## **Inclusion Of Cephazolin For Routine Uterine Pathogen Antibiotic Susceptibilities**

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E. Barter, S. Manning and A. Shepherd

Hunter Equine Centre (Apiam Animal Health)

Thoroughbred broodmares are subjected to routine uterine sampling prior to each stallion service. Mares, returning a positive culture are frequently subjected to systemic or intra-uterine antibiotic treatment pre or post service.

2947 uterine samples including swabs and uterine lavages were reviewed from the 2024 breeding season. 329 positive cultures were isolated, and susceptibilities were compared. The most common isolates were *Escherichia coli* (E.coli) (35% (114 / 329) followed by *beta haemolytic streptococcus* (BHS) 32% (104 / 329). All samples were subjected to routine antimicrobial testing to 8 antibiotics, except for beta haemolytic streptococcus (BHS) which were presumed innately susceptible to penicillin (unless susceptibilities requested by the veterinarian). Antimicrobials included: Amoxiclav (AZ); Ampicillin (AM), Ceftiofur (CF), Cephazolin (CZ), Gentamicin (GM), Neomycin (NM), Penicillin (P), and Trimethoprim sulphonamides (SXT).

67% (76/114) of E. coli samples were susceptible to ceftiofur, 68% (77/114) amoxiclav, 74% (84/114) cephazolin, 47% (54/114) gentamicin, and 35% (40/114) TMPS. There was no statistical difference in susceptibilities to cephazolin or ceftiofur (OR 1.4). However, superiority was shown between cephazolin and gentamicin (OR 0.32) and cephazolin and TMPS (OR 0.19) for E coli samples.

Treatment of intrauterine infections commonly involves ceftiofur, a third-generation cephalosporin or the combination of penicillin and gentamicin. This study shows no difference in the use of first-generation cephalosporin cephazolin and encourages the inclusion of cephazolin for routine antibiotic susceptibilities for uterine samples. Further, the use of cephazolin was shown to be superior to gentamicin in the empirical treatment of E.coli infections. Further research is required into the use of non-antibiotic alternatives and combination treatments using cephazolin.