PREGNANCY RESULTS AFTER ANTIBIOTIC AND NON-ANTIBIOTIC MEDICATION FOR POSITIVE UTERINE CULTURES

E. Barter, S. Manning and A. Shepherd
Hunter Equine Centre (Apiam Animal Health)

Thoroughbred broodmares are subjected to systemic and intra-uterine treatment guided by antibiotic susceptibility. Antimicrobial selection was compared to 45-day pregnancy results.

2947 uterine samples including swabs and uterine lavages were reviewed from the 2024 breeding season. 329 positive cultures were isolated, and pregnancy results recorded for 231 mares. All samples were subjected to routine antimicrobial testing. Non-antibiotic treatments included systemic settle, intra-uterine administration of hydrogen peroxide, DMSO, and iodine. The most common isolates were *Escherichia coli* (E.coli) followed by *beta haemolytic streptococcus* (BHS) with pregnancy rates of 45% (37/83) and 54% (39/72) respectively.

Higher pregnancy results for BHS positive cultures followed intra-uterine administration of DMSO (OR 2.1; p = 0.2), and systemic administration of settle (OR 1.2; p = 0.7). Intra-uterine administration of hydrogen peroxide (OR 0.27; p = 0.01) and penicillin (OR 0.36; p = 0.63) were not associated with an increase in pregnancy rate. *E.coli* In-vitro sensitivity to gentamicin was 47% (54/114) and was positively associated with an increase in pregnancy (OR 2.6; p = 0.07). No association was found with intra-uterine administration of cefazolin (OR 0.86, p = 0.75) despite in-vitro sensitivity of 74% (84/114). No association was found with intra-uterine administration of hydrogen peroxide (OR 0.35; p = 0.03), DMSO (OR 0.29; p= 0.01) or iodine (OR 0.42; p = 0.15).

Treatment of intrauterine infections are guided by culture and susceptibility results, however subsequent association with pregnancy rate is poorly understood. This study does not support the intra-uterine of peroxide at this stage with a significant decrease in pregnancy rate reported regardless of pathogen detected. Further research is required regarding the dose and intra-uterine absorption of cephazolin, and combination therapies.