Dottorato di ricerca in Scienze Veterinarie XXXVI CICLO - Anno di corso: 3°
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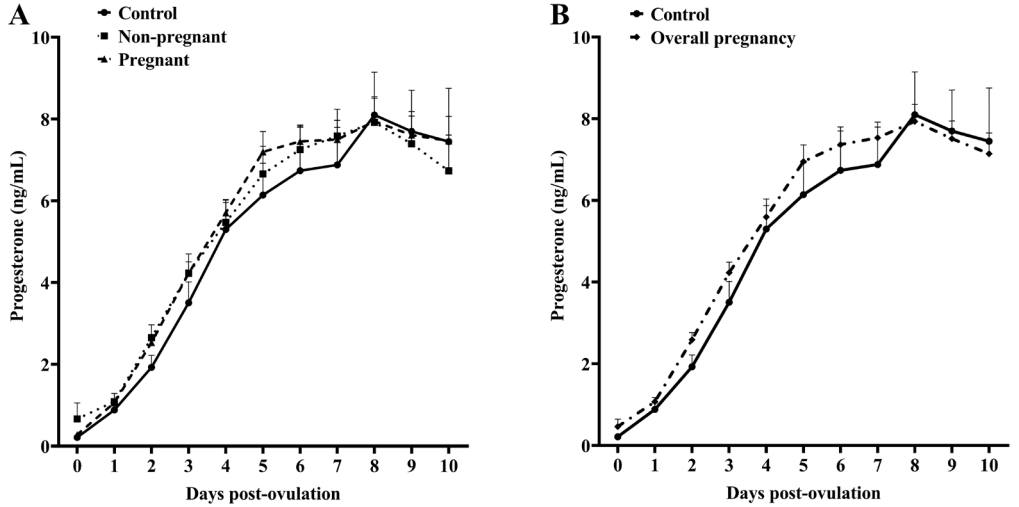
Immunoreactive concentration of progesterone in plasma of pregnant, bred and non-pregnant, and non-bred mares

Objective: Progesterone is pivotal in establishing and maintaining pregnancy in mares. It is hypothesized that mares that are bred but fail to become pregnant have lower concentrations of this hormone compared to mares that do become pregnant. Controversy exists in literature regarding whether pregnancy affects progesterone concentration during the early luteal phase, prior to maternal recognition of pregnancy. Therefore, the aim of this study was to determine and compare progesterone concentrations in non-bred mares, mares that became pregnant after breeding, and mares that failed to become pregnant.

Materials and Methods: 14 light-breed mares were included in this study, with a total of 52 estrous cycles completed. Each mare was examined via transrectal palpation and ultrasonography every day, and a dose of deslorelin acetate was used to induce the ovulation. Twenty-four hours later, the mares were either artificially inseminated or received a sham-artificial insemination with no sperm. After the ovulation was confirmed, ultrasonographic evaluations and blood collections to assess progesterone concentrations were performed daily and continued for ten consecutive days. During each breeding cycle, mares had embryo flushing performed from 10 to 13 days post-ovulation.



Results and Conclusions: None of the mares exhibited an abnormal progesterone concentration, there was an effect of time, and a progressive increase of the progesterone was detected from day 0 up to 8 days post-ovulation, when a peak was noted. Therefore, our findings showed that the luteal function was not affected by pregnancy or breeding during the first 10 days post-ovulation.

Future Proposal: Further studies are warranted to determine whether the presence of endometritis affects progesterone concentrations and luteal function in pregnant and non pregnant mares.

Period Abroad: October 2021-April 2023 at Department of Veterinary Clinical Medicine, University of Illinois at Urbana-Champaign, United States.

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