Use of oxytocin to prevent return to estrus in a mare after breeding
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A seven year-old multiparous Thoroughbred mare being managed for live cover failed to become pregnant on two subsequent cycles despite the use of routine breeding management. The mare had a body condition score 4.5/9, adequate perineal conformation and was bred to a Thoroughbred stallion with known fertility. Ultrasonography examinations for pregnancy were conducted on Day 14 after ovulation. At the time of each pregnancy examination there was no ultrasonographic evidence of a visible corpus luteum, intrauterine fluid, or an embryonic vesicle. The mare was displaying signs of estrus with a moderate degree of uterine edema (grade 2/3; 0-none, 1-mild, 2-moderate, 3-severe), a dominant follicle >=35mm and a relaxed cervix. Uterine culture and cytology were performed after each pregnancy examination. There was no bacterial growth or cytologic evidence of infection or inflammation which would account for the early return to estrus. Furthermore, there was no evidence of an iatrogenic cause for early return to estrus. Based on the clinical findings at the time of each pregnancy examination and the inability to identify a cause for early return to estrus, it was presumed that the mare underwent premature luteal regression. The mare was naturally served a third time by the same stallion and similar breeding management was utilized. In addition, the mare was administered a daily injection of oxytocin (60 units, IM, Q24hr) from Days 7-14 after ovulation, as oxytocin has been shown to maintain luteal function in cycling mares. Transrectal ultrasonography performed on Day 14 after ovulation revealed a positive pregnancy result; furthermore, a visible corpus luteum was present, the cervix and uterus were toned and there was no evidence of uterine edema. Follow-up examinations conducted on Days 17, 30, and 45 after ovulation confirmed normal embryonic growth and development. The author concluded that although the positive pregnancy result may have been possible without the use of oxytocin, the administration of oxytocin from Day 7-14 after ovulation may be beneficial in maintenance of early pregnancy.

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Reference