Comparison of hCG and deslorelin use on two commercial horse farms: A retrospective study

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Reproductive data from 2 central Illinois horse farms were analyzed to compare effectiveness of hCG (Chlorulon^{R}) vs. deslorelin (Ovuplant^{R}), 2 popular ovulation inducing drugs, in a clinical setting. Data was collected over 3 consecutive years, 1999-2001. Farm 1 bred mainly Standardbred mares while Farm 2 bred mainly Quarterhorses. A total of 1422 cycles were examined from 658 mares. There were 383 hCG treated cycles, 451 deslorelin treated cycles and 583 untreated cycles. Farm 1 treated 49% of cycles while Farm 2 treated 63%. Farm 1 treated 48% of cycles with hCG while Farm 2 treated 14%. Farm 1 treated 0.02% of cycles with deslorelin while Farm 2 treated 50%. From the first day estrus was detected, the average day of administration for hCG was 1.50d+/-1.81 and 2.10d+/-1.73 for deslorelin. Average size of follicle at treatment was 40.45mm+/-5.33 for hCG, 36.94mm+/-4.19 for deslorelin, and 40.17mm+/-4.89 for untreated. Average number of inseminations for hCG was 1.59+/-0.88, for deslorelin 1.21+/- 1.06 and for untreated cycles 1.18+/- 0.48. Average number of artificial insemination per cycle on Farm 1 was 1.69 and Farm 2 was 1.08. Average number of palpations was 2.94+/- 1.15 for hCG, 3.58+/- 1.35 for Ovuplant and 3.20+/- 1.36 for untreated cycles. Average number of palpations on Farm 1 was 3.59 and Farm 2 was 2.69. Average time from treatment to ovulation did not differ between hCG (2.47d+/-0.09) and deslorelin (2.58d+/-0.39). Time from treatment to ovulation was affected by follicle size at time of treatment and treatment given. Time to ovulation was hastened by using hCG or delorelin compared to no treatment regardless of follicle size at administration. When treatment was given at follicles from 35mm-39mm, time to ovulation was shorter with deslorelin (2.09d+/-0.08) than hCG (2.65d+/-0.11). When given at follicle size 40mm-44mm, time to ovulation was still shorter with deslorelin (2.04d+/-0.11) than with hCG (2.41d+/-0.10). No difference in response to treatment was noted for follicles <35mm or >45mm. Administration of hCG decreased the number of palpations required per cycle by 1.3 and the number of artificial inseminations required by 0.7 when given on the first day estrus was noted. Deslorelin showed similar results saving 1.4 palpations but showing no significant difference in number of artificial inseminations required per cycle when given the first day of estrus. Use of these agents in a commercial breeding setting appears to be of value for reducing the time spent and number of procedures performed on mares. These data do not support either ovulation agent as superior, but management schemes must be considered in evaluating efficacy.

Keywords: equine, ovulation, hCG, Ovuplant