The impact of post insemination CIDR administration on conception rate and early embryonic death

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The objective of this study was two fold, first, to determine the effect on conception rate (CR) when cows were administered a controlled intravaginal progesterone releasing device (CIDR). Second, to determine the long-term effects on fetal survivability. The study was carried out on a single 1500 cow dairy which was experiencing a ~3% monthly fetal loss occurring between 50-80 days carried calf (DCC). Two hundred sixty-five 1st and 2nd lactation cows were enrolled in the study at day 5 post first service synchronized AI. Treated cows (n=128) had a CIDR in from day 5 to day 19 post-AI. One hundred thirty-seven cows that did not receive a CIDR served as a control group. Body condition score (BCS) was determined on treatment and control cows on the day of insertion of the CIDR. At day 19 post-AI the CIDR was then removed. At day 33 post AI pregnancy determination was accomplished by ultrasound (Sonosite 180 plus, 4-9 MHz sector transducer). Conception rates for treated and control cows were 29.7% and 32.8%, respectively. Between day 47-52 (PG2), CR was 25.0% and 31.4%, respectively. And between day 87-95 (PG3), CR was 23.4% and 29.2%, respectively. CR was also determined relative to BCS at time of CIDR insertion, cows were divided by groups of treatment and control cows by BCS (≤ 2.5), (2.5-3.2), and (≥3.5) with CR of 31.4% and 22.9%, 27.5% and 34.4%, 38.5% and 46.7% respectively. In objective 2, cows that were determined pregnant in objective 1 were checked at (PG2) and again at (PG3) by rectal palpation. Early embryonic death (EED) in treated and control cows between 33 days post AI and (PG2) was 15.8% and 4.4%, respectively. And between (PG2) and (PG3) embryonic death was 6.3% and 7.1%, respectively. In this study there were no significant differences found between CR at any of the three pregnancy diagnosis dates, however, evaluation of the percentage of cows experiencing EED showed a "trend" of greater EED in CIDR treated cows vs. controls (p=0.08). The results of this study suggest that CIDR treatment from 5-19 days post AI results in a possible increase in EED with no impact on CR.