GnRH-agonist induction of fertile estrus with either natural mating or artificial insemination, followed by birth of pups in gray wolves (Canis lupus).

Abstract

Although captive populations of endangered species such as the Mexican gray wolf (Canis lupus baileyi) can benefit from artificial insemination to accomplish genetic exchange, reliable techniques for timing insemination are lacking. We used the generic gray wolf (C. lupus) to test the efficacy of a short-acting GnRH-agonist implant, deslorelin, for inducing estrus. Of five females receiving implants on 17 or 18 January 2003, two mated naturally 10–17 days later, and the others were artificially inseminated using fresh semen, one on day 7 and all three on day 11. Relaxin tests revealed that one artificially inseminated female and both naturally mated females were pregnant on 1
March, and all three gave birth to healthy puppies on 4–6 April. Of the artificially inseminated females, only the one who subsequently conceived and gave birth was judged to be in cytologic estrus at the time of insemination. Two females were treated again with deslorelin on 12 January 2004, followed by collection of fecal samples for hormone analysis. One female, who was housed with a male, copulated on day 17 but did not conceive; the other was not with an adult male. Fecal progestin and estrogen profiles suggested that estrus, but not ovulation, was induced. These results indicated that deslorelin could induce fertile estrus in the gray wolf, although individual response varied. Further investigation is needed to better define and control the interval between implant insertion and ovulation for optimal timing of insemination.

Keywords

Estrus induction; Deslorelin; Ovuplant; Wolf; Canid

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