ABSTRACTS

ISCFR 2012

July 26-29, Whistler, Canada

7th International Symposium on Canine and Feline Reproduction

In a joint meeting with

EVSSAR 2012

15th Congress of the European Veterinary Society for Small Animal Reproduction

Editors: Gary England, Michelle Kutzler, Pierre Comizzoli, Wojciech Nizanski, Tom Rijsselaere and Patrick Concannon

Reprinted in IVIS with the permission of the ISCFR Organizers
Clinical evaluation of deslorelin to induce oestrus, ovulation and pregnancy in the bitch

von Heimendahl, A¹ and Miller, C²

¹Veterinary Reproduction Service, Cambridge, ²University of Cambridge Veterinary School, Madingley Road, Cambridge, CB3 0ES
vetrepro@yahoo.co.uk

INTRODUCTION: The long intervals between and the inability to induce oestrus are a specific problem of dog breeding. More recently Deslorelin has been used to overcome this. One of the problems has been that although the implant reliably induces oestrus, ovulation does not always occur. In this study the implants were left in until ovulation had occurred or blood progesterone regressed to basic levels despite the presence of Deslorelin.

OBJECTIVES AND METHODS: Deslorelin is a GnRH agonist that has been shown to reliably induce oestrus (1) and also ovulation (2). Pregnancy rates following Deslorelin implants have varied between studies (3) (4). The aim of this study is to evaluate the removal of Deslorelin after ovulation and assess pregnancy rates. The study used 16 late anoestrus bitches (at least 160 days since previous oestrus) that had come to the clinic for various reasons such as long anoestrus period (more than 10 months), timing of mating and whelping for convenience of the owner and previous unsuccessful seasons. The bitches were of different breeds, ages and reproductive history. Deslorelin (Suprelorin® 4.7mg, Virbac) was implanted on Day 0 subcutaneously in the ventral abdomen close to the umbilicus. Onset of oestrus was noted. Time of ovulation was determined by serum progesterone levels and ovulation itself was defined as progesterone concentration greater than 15nmol/l. Blood samples for progesterone levels were not taken every day as have been described in previous studies (2) due to the clinical nature of the trial. The Deslorelin implant was removed as soon as ovulation had been detected under local anaesthesia. The clinician had limited influence on breeding regime and bitches were mated one to four days after ovulation to unknown dogs according to owner’s will.

RESULTS:

<table>
<thead>
<tr>
<th></th>
<th>%</th>
<th>Average time</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oestrus (n=16)</td>
<td>100</td>
<td>4.5d</td>
<td>1-10d</td>
</tr>
<tr>
<td>Ovulation* (n=13)</td>
<td>81.3</td>
<td>9.2d</td>
<td>4-16d</td>
</tr>
<tr>
<td>Pregnancy rate (n=11)</td>
<td>68.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* after onset of oestrus

All implanted bitches came into oestrus, on average 4.5 days after implantation. Ovulation was detected in 13 bitches (81.3%) which occurred on average 9.2 days after onset of detected oestrus (range 4 to 16 days). 11 out of 16 bitches became pregnant (68.8%). Average litter size was 7.6 puppies. On average the implant was in place for 13.8 days. One bitch, which had not been seen in oestrus for three years, successfully whelped 10 puppies. Another was implanted twice 23 weeks apart firstly to induce oestrus so it did not occur during the shooting season and then again to have a litter. She whelped 7 puppies.

CONCLUSION: Using the method described, Deslorelin is a reliable drug to induce oestrus. Satisfaction among breeders under clinical conditions was high. Implantation and removal was a minor procedure and required only local anaesthesia. Almost 20% of the bitches did not ovulate after induction, but none of them developed cystic ovaries or had long term detrimental effects. The relatively high pregnancy rate, 85% of those bitches that ovulated, and large litter sizes indicated that oocyte quality after induction with Deslorelin was similar to a natural oestrus.

(2) B. Walter, C. Otzdorff, N. Brugger, J. Braun: Estrus induction in Beagle bitches with the GnRH-agonist implant containing 4.7 mg Deslorelin Theriogenology, Volume 75, Issue 6, 1 April 2011, Pages 1125-1129