ABSTRACTS

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Postponement of puberty using GnRH agonists implants in bitches of different breeds

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Very few studies have been conducted about the postponement of puberty using GnRH agonists implants in bitches (1). Using azagly-nafarelin sub-cutaneous (SC) implants, Rubion et al. (2) implanted bitches aged 4.88 ± 0.32 months. After removing the implant one year after implantation, the age of puberty in these bitches was 25.5 ± 5 months. Using a 4.7 mg deslorelin SC implant in 4 months old bitches, Trigg et al. (3) did not observe any signs of oestrus for the following 36 weeks, but the exact date and clinical and hormonal features of the first oestrus after implantation were not mentioned. Interestingly, in the same study the use of deslorelin implants in bitches aged 7 months or more systematically induced oestrus. To our knowledge, no study has been published so far evaluating the SC 9.4 mg deslorelin implant to postpone puberty in bitches.

OBJECTIVES AND METHODS: The objective of our study was to investigate the use of deslorelin SC 4.7 mg and 9.4 mg implants in the postponement of puberty in bitches below 6 months of age. The observation period began in January 2010 and ended in February 2012. 27 bitches of different breeds aged 4.2 ± 0.6 months (2.8 to 5.3 months), weighing 3 to 40 kilogrammes, and belonging to private owners were included in this study. Altogether, 16 bitches were implanted with a 4.7 mg implant between January 2010 and October 2010 and 11 bitches were implanted with a 9.4 mg implant between November 2010 and February 2012. Among the 4.7 mg group, one Poodle bitch implanted with a 4.7 mg implant was re-implanted with a similar implant 6 months after the first implantation at the request of the owner. The implants were administered subcutaneously in the post-umbilical region and left in place during the whole observation period. The owners of the implanted bitches were asked to call the Small Animal Reproduction Department if any sign of oestrus was observed or if any side effect occurred. The occurrence of the first oestrus was recorded. At the end of the first oestrus, a clinical examination of implanted bitches was performed. Eventual side effects (aspect of the fur, growth) were recorded and ovulation was confirmed using progesterone assays using a quantitative chemiluminescence assay (Elecsys 2010, Roche Diagnostics, Germany).

RESULTS: No bitch showed any signs of induced oestrus soon after implant administration. No clinical side effect was recorded by the owners. Among the 15 bitches implanted only once with one 4.7 mg implant (excluding the Poodle that was re-implanted), 8 bitches displayed their first oestrus 13, 14, 15, 17, 20, 21, 23 and 24 months post-implantation. They all showed a high plasma progesterone level (> 15 ng/ml) at the end of the first oestrus, in accordance with recent ovulation. One Golden Retriever bitch implanted with a 4.7 mg implant presented some doubtful signs of urinary incontinence (according to the owner the bitch was urinating at home from time to time) 8 months after implantation. She was unsuccessfully treated with phenylpropanolamine (Propalin®, Intervet, Holland) and was spayed at the request of the owner 12 months after implantation, before any sign of oestrus was observed. The urinary signs ceased soon after spaying. The 6 remaining bitches did not show any sign of oestrus at the end of the observation period (they had been implanted between 16 and 25 months before). No effect of the size of the breed could be suspected in our study. The Poodle bitch which was re-implanted with a 4.7 mg implant came in heat 11 months after re-implantation. This bitch was naturally mated without any detection of ovulation by a 2 years old male which had never mated before and she did not get pregnant. None of the 9 bitches that underwent puberty showed any abnormality in the fur (such as puppy coat), in the growth or in the development of the external genital organs. Among the 11 bitches that were implanted with a 9.4 mg implant, no bitch showed any sign of oestrus at the end of the observation period. They all had been implanted for 8 to 15 months.

CONCLUSION: Trigg et al. (3) observed that bitches implanted after 7 months systematically showed induced oestrus. In adult bitches so far, no reliable solution has been proposed to prevent the induced oestrus after implantation with GnRH agonists implants. In our study with bitches below 6 months of age, interestingly, no bitch showed any sign of induced oestrus. Although further fertility could not be studied, our data seems to indicate that implantation of bitches of various breeds less than 6 months of age is a valuable and safe way to postpone puberty, without noticeable side effects.