

THE USE OF DESLORELIN IMPLANT FOR THE CONTROL OF SEXUAL CYCLE IN THE BITCH

INTRODUCTION

The deslorelin implant is a GnRH agonist with a potency **100 to 150 times greater than endogenous GnRH¹**. Its main indication is the chemical sterilization, but the deslorelin implant also may have possible off-label prescriptions. Such treatments, as the use of the deslorelin implant for oestrus induction or for the treatment of post-surgical castration urinary incontinence are still under study. Others, such as the use of the implant to delay puberty, are controversial due to adverse effects.

OBJECTIVES

The purpose of this study is to perform a bibliographic review in order to investigate whether the deslorelin implant, currently only marketed in male dogs, could be useful for females and, in this case, to study its possible indications.

INDICATIONS

1) As a zeal inducing method

- 100% zel inductions → Induction of proestrus in **4-6 days**
- 81.3-90% ovulation → Ovulation in **8-16 days**
- 65-71% pregnancies

The administration must be done during...

Table 1. Comparison of results according to the moment of administration of the deslorelin implant (Adapted from Fontaine et al. 2011)²

Parameters	Early anoestrus	Late anoestrus
Ovulation rate	62.5%	83.3%
Fertility rate	25%	69.6%
Part rate	12.5%	65.2%

3) As a puberty delaying method

- 4.7 mg implant → Puberty delay of **4.5-5 months**
- in bitches → Puberty delay of **13-24 months**
- younger than 6 months administering the implant every 5-6 months

4) As a urinary incontinence treating method derived from surgical castration procedures

Deslorelin	VS	Phenylpropanolamine
50-70% efficiency		90% efficiency
Deslorelin	+	Phenylpropanolamine
		99% efficiency

MECHANISM OF ACTION

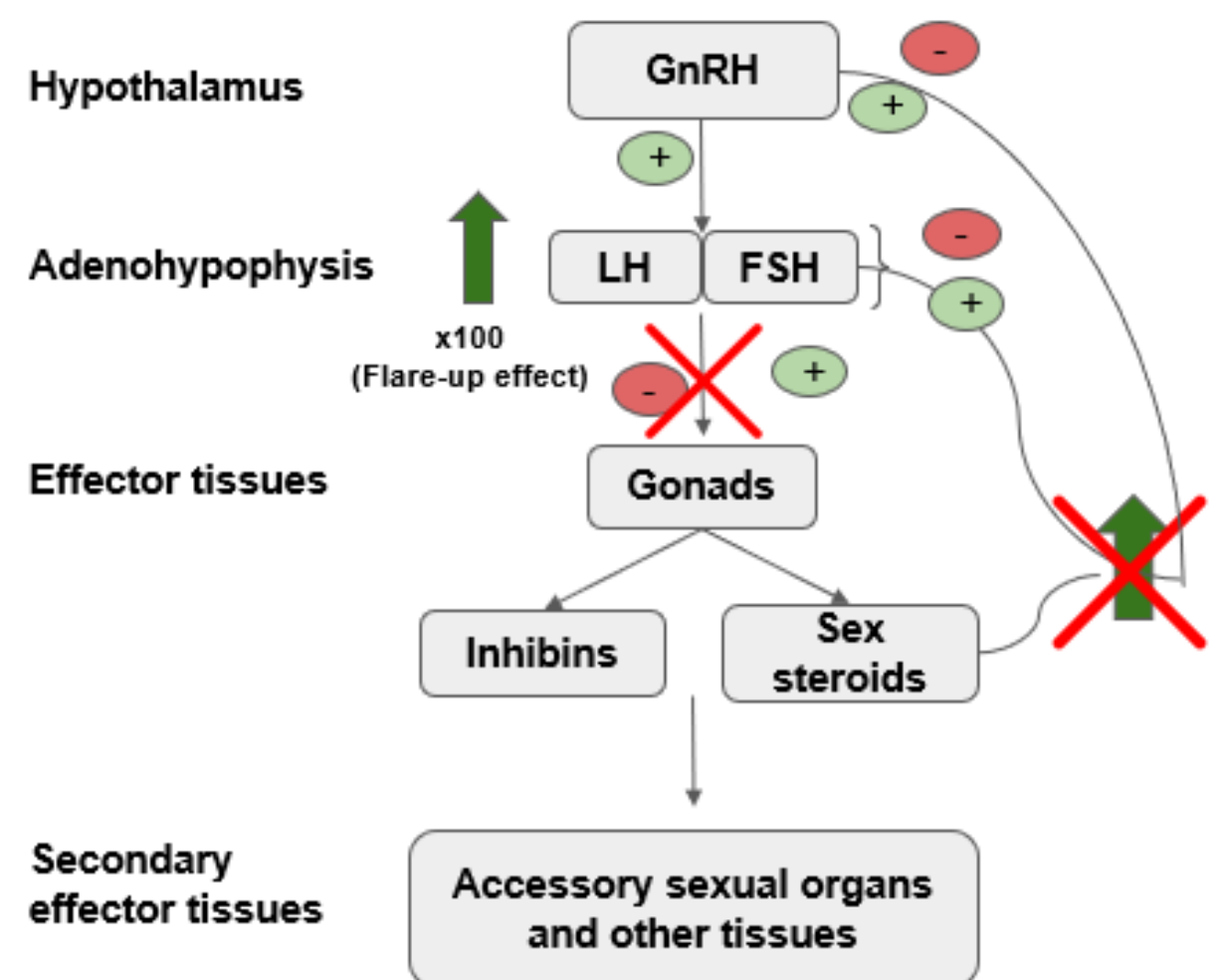


Figure 1. Mechanism of action of Suprelorin®.

2) As a contraception method

- Desensitization of pituitary receptors **2-4 weeks** after implant administration
- Suppression of estrus for **6 months**
- Applying implants every **5-6 months** the duration of the chemical castration's up to **10-20 months**

Cons



"Flare-up effect"



Figure 2. Suprelorin® 4.7 mg

CONCLUSIONS

- The prescription of deslorelin implant as a method of contraception in females dogs is still unclear due to the flare-up effect that's caused at the beginning of the treatment. Its action and adverse effects must be considered.
- For the induction of the estrus, the flare-up effect is a great advantage. It's necessary to keep in mind when to remove the implant to avoid the negative regulation of the pituitary gland.
- The deslorelin implant may be used as a method of delaying puberty but may create growth disturbances. In cases of urinary incontinence it could be used as an adjuvant to the phenylpropanolamine.

1. Rodas-Ruiz J, Tabares-Serna CJ, Giraldo-Echeverri CA. 2015. Evaluation of prostaglandin F2α, estradiol benzoate and deslorelin acetate protocol for oestrus induction in bitches. Arch Med Vet. 47:395-399. doi:10.4067/S0301-732X2015000300019.

2. Fontaine E, Mir F, Vannier F, Gérardin A, Albouy M, Navarro C, Fontbonne A. 2011. Induction of fertile oestrus in the bitch using Deslorelin, a GnRH agonist. Theriogenology. 76(8):1561-1566. doi:10.1016/j.theriogenology.2011.06.031.