



Unusual pregnancy follow-up 2-year-old Great Dane with suspected hypoluteoidism

Alessandra Paganotto, Camille Langlade, S. Buff, Emilie Rosset

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Introduction

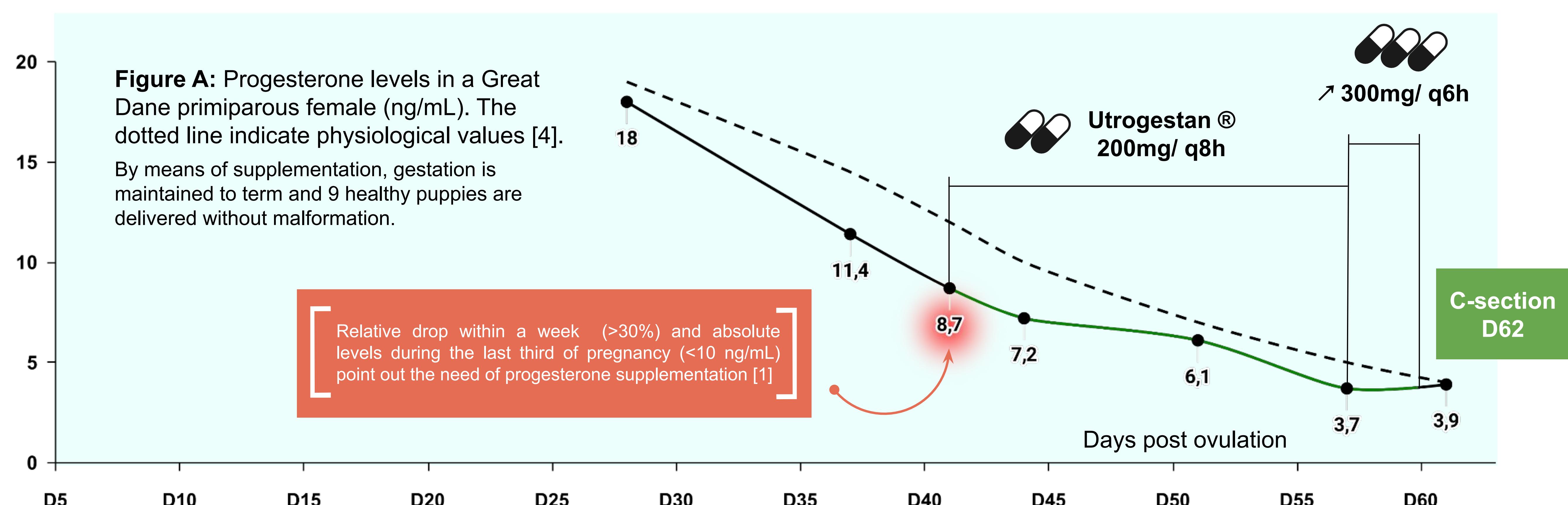
Hypoluteoidism is described as a premature decrease of serum progesterone concentration during the luteal phase, causing foetal resorption and pregnancy loss. Still poorly described in dogs, this pathology is growing more **predominant as a cause of pregnancy loss** in bitches, particularly in **large breeds**, and a need to study its etiology and treatment becomes increasingly important.

Case presentation

A 2-year-old primiparous female Great Dane was presented for ovulation timing and breeding. Hypoluteoidism was suspected as an important **decrease of progesterone** was observed during the gestation [See Figure A]. Supplementation with oral **natural progesterone** was initiated at day 41 (200 mg/ q8h) and continued until day 56.

At that point, the bitch started to show signs of **restlessness, anorexia, mucous vaginal discharge** and **lethargy**. A follow-up ultrasound scan revealed multiple foetuses with a normal heart rate (>200 bpm) but a progesterone level of 3.6 ng/mL. Treatment was adapted (300 mg/ q6h) to avoid the beginning of a premature birth, and continued until day 60 post ovulation.

A final ultrasound check 61 days post ovulation revealed no foetal distress and the **progesterone dosage was stable** at 3.8 ng/mL. An injection of aglepristone (RU 46534) at a dose of 15 mg/kg was given on that day. Nine healthy puppies were delivered by elective caesarean-section 62 days post ovulation, without malformation.



Discussion

Although **hereditary influence** on hypoluteoidism in the bitch is still under discussion [2], a family history was reported in this case. Natural progesterone was favoured over synthetic progestins for its less incidence of collateral effect on foetuses (masculinisation of female foetuses) and on the pregnancy (dystocia, pyometra, uterine infection) [3]. **Unusually, signs of whelping** were observed at 56 days post ovulation **despite existing complementation**. An increase in both doses and frequency of progesterone treatment allowed pregnancy to be maintained to term.

In light of the lack of literature on hypoluteoidism in the bitch, we showcased an example of follow-up and treatment of a suspected case which led to a **successful parturition of healthy puppies** without foetal losses.

[1] Rosset E, Mazereaux C, Buff S. Retrospective study of hypoluteoidism cases in the bitch. 7th EVSSAR Congress, 14th-15th of May, Louvain-La-Neuve, Belgium, 2010

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[3] Görlinger S, Galac S, Kooistra HS, Okkens AC. Hypoluteoidism in a bitch. Theriogenology. 2005

[4] Theijl Kirchhoff K, Goericke-Pesch S. Changes in serum progesterone concentrations in Bernese mountain dogs and Cavalier King Charles Spaniels during pregnancy. Theriogenology. 2016