

PHYSICAL ACTIVITY FOR THE PSEUDOPREGNANCY TREATMENT IN BITCH, AN UNDERESTIMATED THERAPY - CASE REPORT

ACTIVITATEA FIZICĂ ÎN TRATAMENTUL LACTAȚIEI NERVOASE LA CĂȚEA, O TERAPIE SUBESTIMATĂ – PREZENTARE DE CAZ

Alexandra CIUBOTARIU¹⁾,
L.C. BURTAN^{1),*)}, Ș.G. CIORNEI¹⁾,
P. ROȘCA¹⁾, D.G. DRUGOCIU¹⁾

ABSTRACT | REZUMAT

Pseudopregnancy is a syndrome characterised by physical and behavioural signs. The intensity of the clinical symptoms is extremely variable among female dogs; therefore, the therapeutic approach will also vary. A therapeutic option less approached in this pathology is the action of physical activity, which has an important role because pseudocyesis, similar to human disease, is also a psychopathological clinical syndrome. The aim of this article is to emphasise the importance of physical activity for pseudopregnancy treatment in dogs. A 13-month-old female dog, the Tibetan Mastiff, was treated for pseudopregnancy using cabergoline. Even though the clinical signs diminished, the female was not completely healed at the end of the treatment, and the symptoms kept recurring for 2 months. It was decided to significantly increase the activity and change the environment. The female was included in a dog training programme for a period of 60 days, with 3 sessions per day, each lasting 40–60 minutes. This activity led to a favourable evolution both physically and mentally, with the symptoms being completely resolved after 4 weeks.

Key words: pseudopregnancy, bitch,
increased physical activity

Gestația falsă este un sindrom caracterizat prin modificări fizice și comportamentale, cu o intensitate diversă la cățele și implicit o abordarea terapeutică variabilă. O terapie mai puțin abordată în această patologie este creșterea activității fizice și scoaterea femeii din mediul curent, factori cu rol deosebit de important, deoarece pseudogestația la canide asemănător afecțiunii întâlnite la femei, este o tulburare psihopatologică. Scopul acestui articol este de a evidenția importanța activității fizice pentru tratamentul pseudogestației la câini. O cățea, Mastiff Tibetan, de 13 luni, a fost prezentată în clinică cu simptomele caracteristice gestației false, pentru care s-a inițiat tratamentul medicamentos cu cabergolină. Chiar dacă semnele clinice s-au diminuat, la sfârșitul tratamentului glanda mamară încă prezenta o cantitate redusă de secreție la palpare, modificări de comportament, iar simptomele au continuat să reapară timp de 2 luni. S-a decis creșterea semnificativă a activității și schimbarea mediului. Femela a fost inclusă într-un program de dresaj canin pentru o perioadă de 60 de zile, 3 ședințe pe zi, fiecare având o durată de 40-60 de minute. Această activitate a dus la o evoluție favorabilă atât din punct de vedere fizic, cât și psihic, iar simptomele au dispărut complet la 4 săptămâni de la începearea programului.

Cuvinte cheie: pseudogestație, cățea,
activitate fizică crescută

False lactation is the spontaneous onset of lactation, out of gestation and parturition, and usually occurs 6–8 weeks after the oestrus period (3). This condition is recognised by mammary enlargement and onset of lactation, decreased appetite, vomiting, reduced activity, and maternal behaviour for various objects with or without nesting. Treatment aims to control behavioural changes and suppress lactation (7). There are 4 therapeutic categories that have been addressed so far for curing this pathology. In some early

cases, there is the possibility of not intervening therapeutically, as a self-limited pathology, it may only last for a period of 1 to 3 weeks, after which it remits. The second category involves the initiation of a hygienic and dietary treatment (removal of all objects that are associated by the female with that nest, placement of an Elizabethan collar to prevent stimulation of lactation by licking, frequent walks, intermittent water diet) (4). The third category, and the most widely used at present, involves the administration of agalactogenic drugs: anti-prolactinics, progestogens, serotonin agonists, and dopamine agonists (7). The fourth therapeutic approach recommended for predisposed bitches not intended for breeding is ovariohysterectomy,

1) University of Life Science,
Faculty of Veterinary Medicine, Iași, Romania
*) Corresponding author: burtan_liviu@yahoo.com

which is also the only therapy that prevents recurrence (5). This case report aimed to highlight the positive effect that physical activity and environmental change have on this pathology, a low-cost and easy therapeutic element for owners.

MATERIALS AND METHODS

A 13-month-old female dog, Tibetan Mastiff, weighing 38 kg, intact, was presented at the Clinic of Reproduction, Faculty of Veterinary Medicine, USV Iași, with enlargement of mammary glands, loss of appetite, and weight loss. The female dog lived in a yard with both indoor and outdoor access.

According to the owner's description, the mammary gland increased its volume 4 days ago, and no mothing of inanimate objects was seen. The female had the first oestrus 3 months ago and did not receive any contraceptive drugs. There was no possibility of accidental mating. On clinical examination on day 1, the patient was alert and responsive, with a normal temperature of 38.5 °C and a heart rate of 128 bpm.

On local examination, the enlargement of both mammary chains was noted, with the inguinal glands being the most affected. Under pressure, a white and red discharge from the mammary glands was evident. The secretion was sent for a bacteriological test, anti-biogram, and the ultrasonographical examination was scheduled.

RESULTS AND DISCUSSIONS

The result of the bacteriological test was negative. The ultrasound examination showed no signs of pregnancy, and considering the last oestrus period, the diagnosis of false lactation was established.

The female was treated with cabergoline 5 µg/kg (0.1 ml/kg Galastop), one administration per day for 6 consecutive days.

The owner was advised to avoid massaging the abdomen and touching the mammary glands, to increase physical activity, and to apply the Elizabethan collar.

The evolution of the female can be seen in Table 1 and Figure 1.

Table 1

Clinical evolution of the female dog

	Mammary enlargement	Mammary secretion	Behaviour	Observations
D1	+++ (M1-M5)	+++, white (M1-M4; L-M5) +++, red (R-M5)	Normal	Bacteriological test of the secretion: NEGATIVE
D4	++ (M1-M5)	++, white (M1-M4; L-M5) ++, red (R-M5)	Normal	-
D6	+ (M1-M4; L-M5) ++ (R-M5)	++, white (M1-M4) +, sero-sanguinolent (L-M5) ++, red (R-M5)	Normal	-
D10	- (M1-M4) + (L-M5) ++ (R-M5)	+ white (M1-M4) +, sero-sanguinolent (L-M5) +, red (R-M5)	Apathy Drowsiness	Bacteriological test of the secretion: NEGATIVE
D60	- (M1-M4) - (L-M5) + (R-M5)	+ white (M1-M4) +, red (L-M5) +, brown (R-M5)	Adopting clothes and other inanimate objects	Bacteriological test of the secretion: NEGATIVE Cytological test: INFLAMATION Blood test: NORMAL Faecal test: NEGATIVE R-M5 with nodules
D73	<i>First day of increasing the activity</i>			
D87	- (M1-M4) - (L-M5) + (R-M5)	± (M1-M4) - (L-M5) +, brown (R-M5)		R-M5 consistency started to decrease
D94	- (M1-M5)	- (M1-M4) - (L-M5) +, brown (R-M5)	Normal	Active Increased appetite
D101	- (M1-M5)	- (M1-M5)	Normal	R-M5 homogeneous consistency on palpation
D210	- (M1-M5)	- (M1-M5)	Normal	-

Legend: D1 - Day 1 (First consult); D210 - Day 210 (Last consult); M - Mammary gland; (L-M) - Left mammary gland; (R-M) - Right mammary gland



Fig. 1. Mammary gland aspect during treatment. 1. Day 1 - Left and right inguinal mammary glands; 2. Day 6 - Left and right inguinal mammary glands. 3. Day 6 - Red mammary secretion from R-M5; 4. Day 6 - Sero-sanguinolent mammary secretion from L-M5; 5. Day 10 - Bloody mammary secretion from R-M5; 6. Day 10 - Sero-sanguinolent mammary secretion from L-M5; 7. Day 60 - Palpation of multiple nodules on R-M5; 8. Day 101 - Right inguinal mammary gland completely healed; 9. Day 210 - Mammary glands without enlargement and no secretion.

After 4 days, mammary glands were reduced in size, but the secretion was present. On day 6, even if the mammary glands were reduced, secretion is still discharged under pressure. Therefore, it was necessary to continue the treatment for up to 10 days. On day 10, both mammary chains reached normal size, except for the left and right inguinal glands. The last two were still larger, and had a red and sero-sanguinolent secretion. Additionally, according to the owner's description, the female started to sleep more. The bacteriological test for the mammary discharge was repeated, but it came back negative. Therefore, we decided not to continue with the treatment, considering also the sleepiness that appeared, a possible adverse effect of cabergoline, and to return for the checkup in a week. After 7 days, the owner called and said the bitch's condition was better; she still had some discharge from the inguinal glands but did not return for the scheduled appointment.

On day 60, the owner reported that the female started to carry clothes and other inanimate objects to different places in the backyard. At presentation, the mammary secretion was still present, and the inguinal glands had haemorrhagic discharge. According to the owner, the secretion never entirely disappeared. On palpation, the consistency was non-homogeneous in the right inguinal gland, with multiple nodules. The bitch weighed 30 kg, 8 kg less than the first visit. The repeated bacteriological, cytological, and blood tests indicated that there was no bacterial infection, only signs of local inflammation. A faecal test was also carried out, in order to screen for intestinal parasites, with negative results. Considering the results of the investigations and the medical evolution so far, it was recommended to initiate conservative treatment, focused on increasing daily physical activity and removal from the usual environment.

The female started a specialised dog training programme for 2 months. She had 3 sessions per day, each lasting 40-60 minutes. During this period, the bitch stayed in a specially designed space in the training centre, without blankets or other objects that would perpetuate her maternal behaviour. Two weeks after the start of the programme, a favourable evolution in terms of behaviour and mammary gland was already observed. The mammary glands have become more flaccid, with less volume, but secretion was still observed in some of them. In 3 weeks, the mammary glands had returned to their original size, but there was still a haemorrhagic discharge from the right inguinal mammary gland. At 4 weeks of activity, the secretion was absent, with complete healing occurring. At the periodic evaluation on day 210, the bitch was in very good condition, with no behavioural changes, her mammary glands completely healed, and no secretion under pressure.

The intensity of the clinical signs is extremely variable among females with pseudopregnancy; therefore, the therapeutic approach will also vary. In a study of 397 clinics from the United Kingdom, diet, exercise, and behavioural modification were described as the sole treatment approaches by vets in charity practices (7). In terms of therapeutic approaches, this study indicates the following prevalence: 52% apply no treatment, 44% administer cabergoline, and 3% use other treatments (megestrol, proligestone, antibiotics, diet, increased physical activity, and environmental modification). In Root et al. (2018) study, cabergoline was prescribed for an average of 5 days, but 68% of clinicians reported that it was necessary to continue the treatment for resolution of the physical signs, and 18% repeated treatment until behavioural changes disappeared, up to a maximum of 13 days of administration (7). BSAVA indicates that it can be administered for a period of 2 weeks (6). Since in our case persistent somnolence, an adverse reaction to this substance, was observed, we decided to stop cabergoline therapy after 10 days, and apply a conservative treatment. Other authors administered cabergoline for a week, in order to completely resolve the enlarged mammary glands (2). Although cabergoline is the most widely used therapy today, due to its advantages of having the fewest side effects and the longest duration of action, it also has a clear disadvantage: its high price. When we are dealing with a large patient, whose clinical signs do not improve after the first 6 administrations and who requires prolonged therapy, the final price can be substantial.

In human medicine, the success of pseudocyesis treatment requires multidimensional cooperation between psychiatrists, psychologists, and gynaecologists (1). Therefore, we believe that in veterinary medicine, too, greater emphasis should be placed on the curative action of increasing physical activity, changing the environment, basically by bringing it out of the state of depression.

CONCLUSIONS

The therapeutic protocol in this pathology is variable, and must be carried out in correspondence with the aggressiveness of the clinical symptoms. The use of cabergoline has had a positive impact worldwide on the treatment of pseudopregnancy, but it has the disadvantage of high cost, especially in large patients such as the one presented in this article.

Physical activity and environmental change are an affordable therapeutic element that can be approached as a sole therapy in early forms, or as an adjuvant factor in aggressive forms, speeding up healing. Complete recovery in both physical and behavioural signs was observed after 4 weeks of specialised dog training.

REFERENCES

1. *Azizi M., Elyasi F., (2017), Biopsychosocial view to pseudocyesis: A narrative review. International journal of reproductive biomedicine, 15(9):535-542*
2. *Bastan A., Fmdik M., Erunal N., Aslan S., C. Kilicoglu, (1998), The use of cabergoline for treatment of pseudopregnancy in dogs with the purpose of suppressing lactation. Reproduction in Domestic Animals, 33:49-53*
3. *Drugociu D., Drugociu S.D., (2015), Patologie genitală și a glandei mamare la animale [Genital and mammary gland pathology in animals] (in Romanian), (Ed.) "I. Ionescu de la Brad", Iași, România*
4. *Feldman E.C., Nelson R.W., (2004), Canine and feline endocrinology and reproduction, Third Edition, (Ed.) Elsevier Science, St. Louis, Missouri, USA*
5. *Lee W.M., Kooistra H.S., Mol J.A., Dieleman S. J., Schaefers-Okkens A. C., (2006), Ovariectomy during the luteal phase influences secretion of prolactin, growth hormone, and insulin-like growth factor-I in the bitch. Theriogenology, 66:484-490*
6. *Ramsey I., (2017), BSAVA small animal formulary 7th edition, (Ed.) British Small Animal Veterinary Association, Quedgeley, Gloucester, UK, 48-49*
7. *Root A.L., Parkin T.D., Hutchison P., Warnes C., Yam P.S., (2018), Canine pseudopregnancy: an evaluation of prevalence and current treatment protocols in the UK. BMC Veterinary Research, 14:170.*