



Studies on Physical and Clinical signs of parturition in Bitches with Dystocia*

Narasimha murthy¹ and Devaraj.M

* Part of Ph.D thesis submitted by first author to KVAFSU, Bidar, Karnataka.

Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, Veterinary College, Hebbal, Bengaluru-560024

Abstract

The most common behavioral sign observed by the owner of the patient at the onset of parturition were nesting, restlessness and panting. However, these signs were observed only in 20-30 per cent of the animals suggesting that the behavioral signs cannot be used with certainty to suggest that the animals are indeed in the act of parturition. Nearly 50 per cent of the animals with dystocia were presented with a history of copious mucoid discharge with slight greenish tinge. In most animals exhibiting this kind of discharge, the fetuses were found to be alive as identified by ultrasonographic examination. In nearly 28 per cent of the animals, the vaginal discharges were dark and blackish green and in another 33.33 per cent it was brownish and foul smelling indicating that dystocia had existed for considerable period of time. In many animals with dystocia, the rectal temperature remained within the normal limits inspite of prolonged duration of dystocia and in the presence of foul smelling discharges and higher rectal temperature was invariably associated with history of vaginal manipulation by the referring veterinarian. The mean heart, pulse and respiratory rate in all 240 animals with dystocia were within the normal limits.

I. Introduction

In recent years, advances in canine reproduction have facilitated pregnancy management to emerge as an important clinical service that has application from the beginning to the end of gestation. The advances provide new and improved methods of pregnancy detection; improved use of ultrasound to determine gestational age, assess fetal wellbeing, predict the date of whelping, detect animals prone for dystocias and formulate treatment protocols to reduce maternal and fetal mortality (Concannon and Verstegen, 1998).

The act of parturition perhaps is the most anxious time for the dog owners and breeders, as the puppy survival rate and the future reproduction of the dam are influenced by events at this stage. In a study by Forsberg and Forsberg (1989), the frequency of puppy deaths upto three weeks of age following normal parturition was reported to be 11.9 per cent. In comparison, the frequency of pups born dead or die during abnormal parturition was 22.3 per cent (Darvelid and Linde- Forsberg 1994). The present study aims at the events which occurs in the bitch before parturition was evaluated so that timely intervention can be extended by the veterinarian to save the mother and pups.

II. Materials and methods

Clinical examination

The clinical examination included the ultrasonographic measurements of the fetal head to record the gestational age, assessment of temperature, pulse and respiration, recording the nature of discharges in bitches with dystocia. These observations were carried out only on patients handled during the course of the present investigation.

Behavioral signs exhibited by the bitches with dystocia

In clinical cases of dystocia presented during the course of the present investigation, the owners were specifically questioned about the behavioral signs exhibited by the bitch such as restlessness, anorexia, panting, nesting and vomiting.

Temperature, Pulse and Respiration

The temperature was recorded in Fahrenheit using a digital clinical thermometer. The pulse and the respiratory rate were recorded as number per minute.

Nature of discharges in bitches with dystocia

The nature of discharge exhibited by patients with dystocia was recorded by obtaining the history from the owner, visual inspection of the perineum and vulva and Endoscopic examination of the vaginal lumen which was carried out using a rigid fibroptic vaginal endoscope (STORZ, KARL STORZ-ENDOSCOPY). The endoscopy also enabled the presence or absence of water bag in the vaginal lumen which could not be identified by digital examination of the vagina and the patency of the cervix.

Based on the nature of vaginal discharges, animals with dystocia were categorized into,

- a. Animals exhibiting no vaginal discharges.
- b. Animals exhibiting greenish/blackish green vaginal discharges.
- c. Animals exhibiting hemorrhagic vaginal discharges.
- d. Animals exhibiting foul smelling brownish discharges.

III. Results and discussion

Behavioral signs exhibited by the bitches with dystocia

In the present study, the behavioral signs observed by the owner at the time of onset of parturition were recorded and is presented in Table 1. The most common signs reported by the owner were nesting (30.83%) and restlessness (29.16%). Excessive panting was reported by the owner in 20 per cent of the dystocia cases. Vomiting and anorexia were reported infrequently.

The behavioral signs exhibited by a pregnant animal during advance pregnancy are commonly used by a breeder to determine the approximate gestational age and to predict the parturition date. However, the observations made in the present study as well as in the reports of Bennur, (1999) and Bhagirathi, (2008) suggest that the signs are too variable and inconsistent to be used for determination of gestational age and parturition date. Further, animals with dystocia also did not exhibit a particular sign which can be used by the owner with confidence to suggest that the delivery is not progressing normally. For instance, anorexia which is abnormal was observed in only 10 per cent of the animals. Similarly, restlessness and panting were not present in over 70% of the animals. Therefore, more than the behavioral signs, the actual duration of each stage of parturition or the nature of vaginal discharges may have more relevance for the owner in identifying a parturition process as normal or abnormal.

Temperature, Heart, Pulse and Respiratory rate

The rectal temperature in 240 animals with dystocia averaged 101.84⁰ F and ranged between 97.6⁰ F and 104⁰ F (Table 2). In most cases (89%), the rectal temperature at the time of presentation was within the normal limits (99.5⁰ F to 102.5⁰ F). One animal had subnormal temperature (97.6⁰ F) and was

in extremely toxemic stage at the time of presentation and the cause of dystocia was later determined to be due to uterine torsion. An interesting observation made in the present study was that in many animals the rectal temperature remained within the normal limits inspite of prolonged duration of dystocia and in the presence of foul smelling vaginal discharges. Nevertheless, higher rectal temperature was invariably associated with history of vaginal manipulations by the referring Veterinarian.

The mean heart, pulse and respiratory rates in 240 animals with dystocia were within the normal limits. There is no literature available with regard to changes in pulse and respiratory rate of bitches with dystocia. However, it seems reasonable to assume that the respiration and pulse rate in dystocia patients may be influenced by a variety of extraneous factors such as anxiety, transport, hospital environment, degree of handling etc and therefore, any abnormal changes in the respiratory and pulse rate in animals with dystocia must take the extraneous factors into consideration. However, it is equally important to consider the state of the patient as conditions such as toxemia, septicemia or dehydration may also affect the respiratory and pulse rates.

Nature of vaginal discharges in bitches with dystocia

Table 8 presents the nature of vaginal discharge (colour and odour) exhibited by animals with history of dystocia. Nearly 50 per cent of animals with dystocia were presented with history of copious mucoid discharge which was slightly greenish tinged and was confirmed on further clinical examination. This kind of discharge probably indicates that either the animal is still in the course of parturition or that the dystocia has been existing for a very short period of time. It may also indicate that the fetuses are probably alive. The greenish color of the discharge has been stated to be due to placental separation (Roberts, 1986) and probably a mild green color may indicate a mild separation of the placenta enhancing the chances of encountering a live fetus. In the present study, in most animals exhibiting this kind of discharge, the fetuses were found to be alive as identified by ultrasonic examination and in those animals which were subjected for cesarean section, the fetuses delivered were invariably alive.

In 15.42 per cent of the animals, vaginal discharges were very blackish green and thick indicating a complete placental separation of atleast one fetus in the caudal part of the uterus. This kind of discharge may indicate the possibility of dystocia being existing for some time and also the possibility of encountering one or more dead fetus. This statement was collaborated in the present study through ultrasonographic studies which invariably identified one or more dead fetuses in animals with a thick green or blackish greenish discharge.

The vaginal discharges were brownish and foul smelling in 33.33 per cent of cases indicating that dystocia has been existing for considerable period of time and the possibility of most of the fetuses being invariably dead. In the present study again the ultrasonographic studies in 80 animals with foul smelling discharge invariably revealed dead fetuses. In many cases gas in and around the fetuses was identified on ultrasonic examination.

Hemorrhagic discharges were observed in six (2.5%) animals. One of the animals with a hemorrhagic discharge turned out to be a case of uterine torsion on cesarean section and in other five animals, severe vaginal edema was observed suggesting the possibility of vaginal manipulation and subsequent trauma to the vagina prior to its presentation to the obstetrical unit. The nature of the vaginal

discharge in a bitch with dystocia may provide a clue regarding the condition of the genital tract and may help in deciding the choice of treatment for revealing dystocia (Table 3).

Table 1. Behavioral signs observed by owners in bitches with dystocia (N=240)

Behavioral signs observed	No of cases	Per centage
Restlessness	70	29.16
Anorexia	24	10.00
Panting	48	20.00
Nesting	74	30.83
Vomiting	24	10.00
Total	240	100.00

Table 2. Mean temperature, heart, pulse and respiration rates in bitches with dystocias (N=240)

	Temperature (° F)	Heart (per minute)	Pulse (per minute)	Respiration (per minute)
Range	97.6-104	76-112	53-125	20-99
Mean	101.84	89.85	84.92	48.19
SE	0.636	2.423	2.272	2.812

Table 3. Nature of vaginal discharges in bitches with dystocia (N=240)

Nature of vaginal discharge	No of animals	Percentage
Mucoid, copious and slightly greenish tinged	117	48.75
Thick dark greenish/blackish green	37	15.42
Hemorrhagic	6	2.5
Brownish and foul smelling	80	33.33
Total	240	100.00

IV. Summary

The most common behavioral sign observed by the owner of the patient at the onset of parturition were nesting, restlessness and panting. However, these signs were observed only in 20-30 per cent of the animals suggesting that the behavioral signs cannot be used with certainty to suggest that the animals are indeed in the act of parturition. Nevertheless, they are useful symptoms to the owners to present the bitch for examination and confirmation and thereby avoiding future complications.

Nearly 50 per cent of the animals with dystocia were presented with a history of copious mucoid discharge with slight greenish tinge. In most animals exhibiting this kind of discharge, the fetuses were found to be alive as identified by ultrasonographic examination. In nearly 28 per cent of the animals, the vaginal discharges were dark and blackish green and in another 33.33 per cent it was brownish and foul smelling indicating that dystocia had existed for considerable period of time. It was concluded that the nature of vaginal discharge in a bitch with dystocia may provide a clue regarding the condition of the genital tract and may help in deciding the choice of treatment.

In many animals with dystocia, the rectal temperature remained within the normal limits inspite of prolonged duration of dystocia and in the presence of foul smelling discharges and higher rectal temperature was invariably associated with history of vaginal manipulation by the referring veterinarian. The mean heart, pulse and respiratory rate in all 240 animals with dystocia were within the normal limits.

Bibliography

- [1] CONCANNON P AND VERSTEGEN J, 1998. Pregnancy in Dogs and Cats. In: Knobil E and Neil JN, eds. Encyclopedia,
- [2] FORSBERG L. C and FORSBERG M, 1989. Fertility in dogs in relation to semen quality and the time and site of insemination with fresh and frozen semen. *J Reprod Fert Suppl.* **39**:299-310.
- [3] DARVELID, A .W and LINDE-FORSBERG C., 1994, Dystocia in the bitch: A retrospective study of 182 cases. *J Small Anim, Pract.*, **35**: 402-407.
- [4] BENNUR, S., 1999. A clinical study on etiology and treatment of canine dystocia. M.V.Sc thesis submitted to University of Agricultural Sciences, Bangalore.
- [5] BHAGIRATHI.P.S., 2008. Studies on the prediction of parturition date in bitches. Ph.D Thesis submitted to the Karnataka Veterinary, Animal and Fisheries sciences University, Bidar.
- [6] ROBERTS, S.J. 1986. Parturition. In: Veterinary Obstetrics and Genital diseases. (Theriogenology). 2nd Edn. Cornell University, Ithica, New York. Pp 251-255.

