

Parturition length in Labrador Retriever bitches (*Canis lupus*)

Haley Livingston, Amélie Mugnier, Fanny Aguer, Anthony Morin, Sylvie Chastant

College of Veterinary Medicine, University of Illinois, Urbana-Champaign, Illinois, USA (Livingston),
NeoCare, Toulouse National Veterinary School, Toulouse, France (Mugnier, Aguer, Chastant)
CESECAH, Lezoux, France (Morin, Bonte)

Parturition is stressful for the breeder, the dam and the newborns. The objective of this study was i) to identify in the canine species factors impacting parturition length, defined as the time elapsed from the expulsion of the first and the last puppy. Data from 135 whelpings of 83 Labrador Retriever dams (1,136 puppies, with a 1:1 sex ratio) were retrospectively collected from one kennel: parity and age of the dam, litter size (total number of puppies born), total litter weight (sum of the birth weights of all puppies including stillborns), presence of at least one stillborn puppy, pregnancy length (from ovulation to whelping), time at beginning of parturition (night 22h-06h/day 6h-22h). Median parturition length was 380 minutes (min:119, max: 1200). Age of dams at parturition was 4.2 years (± 1.6 ; mean \pm SD; min: 1.7; max: 7.5) and parity was 2.5 (± 1.3 ; min: 2; max: 5). Mean litter size was 8.0 (± 2.4 ; min: 2; max: 13) and total litter weight was 3352 g (± 851.2 ; min: 860; max: 5720). A proportion of 23.7% of the whelpings occurred at night. Stillbirth rate was 4.0%. Multivariate statistical analysis (linear regression, R-software) evidenced that the total litter weight was the only factor to significantly influence parturition length ($p=0.031$); presence of a stillborn puppy tended to ($p=0.059$). These results have to be confirmed in several kennels and in other canine breeds. The impact of parturition length on puppies mortality and neonatal growth remains to be evaluated.

Research grant: Toulouse National Veterinary School

Student Support: Boehringer Ingelheim Veterinary Scholars Program

Parturition length in Labrador Retriever bitches (*Canis lupus*)

Haley Livingston+, Amélie Mugnier, Fanny Aguer, Anthony Morin*, Sylvie Chastant

NeoCare, Toulouse National Veterinary School, Toulouse, France
+College of Veterinary Medicine, University of Illinois, Urbana-Champaign, Illinois, US *CESECAH, Lezoux, France



Introduction

Parturition is stressful for the breeder, the dam, and the newborns. A longer parturition length could cause a higher mortality rate with newborns, thus, the varying factors that influence parturition length need to be identified.

Objective

The objective was to identify factors (pregnancy length, litter weight, litter size, parity, age of dam, stillbirths and time of day) impacting parturition length in the canine species.

Materials and Methods

Data was obtained from 1 French kennel (CESECAH) for Guide dogs for the Blind for a total of 83 Labrador Retriever dams. A total of 1,136 puppies were born from 135 whelpings with vaginal delivery between 2001-2017. Parturition length in minutes was calculated starting from the time of the expulsion of the first puppy until the expulsion of the last puppy. A multivariate analysis was conducted on factors impacting parturition length. Statistics were done using R-Software.

Discussion and Conclusions

Parturition length was only affected by litter weight. No other variables, either related to the dam (age, parity), to the moment of whelping (pregnancy length, time of day) or to the litter (litter size, presence of at least one stillborn) showed any significant impact. These results have to be confirmed in several kennels and in other canine breeds. The impact of parturition length on puppies mortality and neonatal growth remains to be evaluated.

