

BC Canine Leptospirosis Surveillance

Introduction and data sources

BC veterinarians and dog owners are interested in the prevalence and location of canine diagnoses of leptospirosis. The BC Ministry of Agriculture's Animal Health Centre (AHC) Laboratory in co-operation with True North Veterinary Diagnostics Inc. and IDEXX are generating surveillance data on laboratory confirmed or suspect cases of canine leptospirosis in BC. This surveillance data is available at the Reportable and Notifiable Diseases section of the AHC's website (<https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/animal-health/reportable-notifiable-diseases>).

Case definition

The data includes canine cases of leptospirosis diagnosed at one of the three labs since January 1, 2018. Confirmed laboratory cases are defined as having a positive PCR or having a four-fold, or greater, increase in MAT (micro agglutination test) antibody titre between acute and convalescent serum samples. Suspect cases have a single elevated (>1:800) MAT titre. These case definitions are commonly used in canine leptospirosis surveillance systems. It is recognized that such case definitions underestimate the true number of cases. One measure of disease incidence is the rate of positive cases among those tested. Unfortunately, the number of dogs tested for leptospirosis by the co-operating laboratories are unknown. The AHC typically tests approximately 40 dogs a year and detects one PCR positive.

Data elements

The BC canine leptospirosis surveillance data includes the date of the laboratory diagnosis and all laboratory leptospirosis specific diagnostic testing including the sample(s) tested and the results. The location of the veterinary practice which submitted the samples for laboratory testing is noted. Caution is needed in interpreting the location of the veterinarian as it may not necessarily indicate the location of the case when infected. Where available, signalment information (i.e., age, gender, and breed) about the case is included. The cases are listed chronologically.

Additional cases

BC veterinarians aware of a case of canine leptospirosis which meets the laboratory surveillance case definition and that is not included in the surveillance data are encouraged to contact Dr. Brian Radke, Public Health Veterinarian, BC Ministry of Agriculture (brian.radke@gov.bc.ca, 604-556-3066) to provide the case data so it can be added to the surveillance data.

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/animal-and-crops/animal-health/bc_canine_leptospirosis_surveillance.pdf

Results

BC Canine Leptospirosis Surveillance						
Report Date	Location	Age	Breed	Gender	Diagnosis	Laboratory Leptospirosis Testing Results
19-Feb-2018	Surrey	6 yr		male neutered	confirmed	Blood & urine PCR pos.
11-Sep-2018	Vancouver	20 month	Boxer	male	confirmed	Blood PCR pos., urine PCR neg.
03-Oct-2018	Langley	9 yr	Labrador Retriever	male	confirmed	Urine PCR pos.
27-Oct-2018	Surrey	8 yr	German Shepherd	male neutered	confirmed	Urine PCR pos., blood PCR neg. & ELISA pos. for antibodies.
21-Nov-2018	Langley	3 month	Bulldog	male intact	confirmed	Urine PCR pos., blood PCR neg. & ELISA pos. for antibodies.
07-Nov-2018	Victoria	4 yr 9 month		female spayed	confirmed	Urine PCR pos., blood PCR neg.
04-Jan-2019	Vancouver	6 yr	Nova Scotia Duck Tolling Retriever	female spayed	confirmed	Urine PCR pos., blood PCR neg.
25-Jan-2019	Surrey	4 yr		female	confirmed	Blood & urine PCR pos., blood ELISA neg. for antibodies.
25-Feb-2019	Vancouver	5 yr	Bernese Mountain Dog	female spayed	confirmed	Urine PCR pos., blood PCR neg. & ELISA pos. for antibodies.
25-Feb-2019	Saanich				confirmed	> 4 fold increase in MAT.
27-Aug-2019	Langley	5 yr	Terrier	male neutered	confirmed	Urine PCR pos., blood PCR neg. & Lepto SNAP test positive.
25-Sep-2019	Langley	1 yr	Chihuahua X	female spayed	confirmed	Urine PCR pos., blood PCR neg. & ELISA neg. for antibodies.
09-Oct-2019	Langley	3 month	German Shepherd	female	confirmed	Blood PCR pos.
10-Oct-2019	Comox	5 yr		female spayed	confirmed	Urine PCR pos., blood PCR neg. & ELISA pos. for antibodies.
01-Nov-2019	Ladner	11 yr	Welsh Terrier	male neutered	suspect	Elevated single antibody titre (1:12,800 to Pomona), urine PCR neg.

All six cases diagnosed in 2018 were confirmed cases based on positive PCR test results. One case was from Victoria and five were from the lower mainland – two cases each from Surrey and Langley and one case from Vancouver. Cases spanned from February to November, with the majority in the fall.

As of November, nine cases have been diagnosed in 2019. Eight cases are confirmed -- seven based on PCR positive results and one with a greater than four fold increase in MAT. The single suspect case was based on a single high titre. Three cases were from Langley, two from Vancouver and one each from Surrey, Saanich, Comox and Ladner.

Eleven dogs had blood and urine PCR results, only two were positive on both specimens. The remaining nine dogs were PCR positive on one specimen and PCR negative on the other specimen. The breeds of nine dogs were identified. The Welsh Terrier and potentially the Chihuahua X and the Terrier could be small sized dogs depending on the cross and the type of terrier, respectively.

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