

Leptospirosis

Incidence of this disease as observed in Iowa

Wayne H. Riser, D.V.M.*

AN ACUTE disease of dogs, characterized at the onset by severe muscle soreness and moderately high temperature, followed by extreme dehydration, declining temperature, severe gastroenteritis, stomatitis, and in some cases severe nervous symptoms, has been recognized by clinicians for many years. Brumley¹ speaks of this syndrome as canine typhus, hemorrhagic enteritis, dog plague and black tongue.

The etiology of the disease has been baffling. The nature of the disease suggests it to be a specific infection and a variety of organisms have been isolated from cases at necropsy. Because of this great variety of bacteria found, the organisms were considered by many to be secondary in nature. Some work² done on nutrition by Spies and his associates in 1931 tended to show the etiology to be the B₆ factor of the vitamin B complex.

Organisms Isolated

In 1937 Meyer³, cooperating with Michael, isolated two organisms, *Leptospira canicola* and *Leptospira icterohemorrhagicae* from dogs suffering from the above mentioned symptoms. These investigators collected much evidence to prove that these two organisms were the causative factor of this syndrome. Krichel⁴, in 1940, was the first to report leptospirosis in Iowa. He diagnosed this condition in a number of patients and his diagnosis was confirmed serologically by Smith⁵ and Meyer. In 1941, Wall, Vernon and the

author cooperating together diagnosed the condition in some 30 patients between August and December. The diagnoses were confirmed serologically by Meyer. These animals reacted to both types of organisms and positive reactions were reported in dilutions as high as 1:10,000 in some instances.

Symptoms

The symptoms of this disease are fairly constant. The disease follows a well defined course, so much so that after the first three or four days it is relatively easy to diagnose the condition. This conclusion is made because in every instance but one the disease when diagnosed clinically as leptospirosis was substantiated serologically by Meyer. The blood samples for serological test were secured between the fifth and seventh day after the onset of the disease. If blood samples are taken earlier in the course of the disease, agglutinins may fail to be present in the blood of the suspected patient.

After this experience with leptospirosis, the author is of the opinion that the disease is widespread in Iowa, but he doubts if it is on the increase because his records show about the same percentage of cases during the last 5 years. In the vicinity of Des Moines cases have been seen in all months of the year, but in August and September the infection reaches its peak and outbreaks are quite numerous until after freezing weather.

One can only speculate as to what may

* Small Animal Clinic, Des Moines, Iowa.

(Continued on page 143)

hemolytic anemia and jaundice. Nephritis, albuminuria, Hemoglobinuria, hematuria are some of the changes observed. An enlarged spleen seems to be a constant lesion. (4) **Antidotes:** Treatment with liver extract followed by iron and copper does not appear to be very efficacious. Blood or plasma transfusions have been suggested and are believed to be of therapeutic value.

If the dosage is controlled, phenothiazine is indispensable. The suggestion has been made that phenothiazine be used for horses as a direct treatment in a spring and late summer routine in areas where strongyle infestation is prevalent.

(Swales, W. E. 1942. *Phenothiazine—its role in the control of parasites in horses. Canadian Jour. Comp. Med.* 6:50.)

LEPTOSPIROSIS

(Continued from page 121)

be the means of transmission of leptospirosis among dogs. Cases have been seen in apartment dogs, who never come

in contact with other dogs or with rats. It is fairly well established that the rat may be the carrier of the *Leptospira icterohemorrhagicae* organism and the dog a carrier of both organisms. Knowing this, one can not help wondering the part played by the garbage can, incinerator and fish pool in the transmission of these two organisms. Rats and dogs have free access to these three places and the food and water found there can easily become contaminated with urine from either of these animals.

It is interesting to review this work of Meyer, Michael and others and it will be interesting for Iowa practitioners to gather further data on the incidence of leptospirosis in this state.

BIBLIOGRAPHY

1. Brumley, O. V., Textbook "Diseases of Small Animals"; Lee and Febiger, Phil. 1931, pg. 557.
2. Covault, C. H., class notes. Feb. 23, 1932.
3. Meyer, K. F., Stewart-Anderson, B., Eddie, B.; Jour. Amer. Vet. Med. Assoc. XCV, Dec. 1939, pg. 710.
4. Krichel, J. H., reported at Midwest Small Animal Association meeting April 1941.
5. Smith, H. C., pathologist, Fort Dodge Laboratories.
6. Wall, Robt. D., Vernon, J. M. Riser, W. H., 1941 case records.

WIN THE WAR

Food Stuffs Will Help a Lot.
That is a Big Part of Our Job, Here in the Middle West.

POULTRY IS IMPORTANT

Save Every Chick. Prescribe an Effective Anthelmintic.

Kamala-Nicotine Compound

Rx 1

Kamala Powder - - - - 5 grains
Calomel - - - - - 1/2 grain
Extract Tobacco - - - 1/40 grain

Plain and Enteric Coated.

Rx 5

Kamala Powder - - - 15 grains
Calomel - - - - - 1/2 grain
Nicotine Sulfate - - - 1/4 grain

Enteric Coated.

THE STANDARD CHEMICAL COMPANY

DES MOINES, IOWA