

CLINICAL MEDICINE

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1 **Leptospirosis in the Dog.** Since June, 1941, five cases entering the college clinic have been definitely diagnosed as canine leptospirosis. It is highly probable that this disease is more prevalent than has previously been diagnosed.

Leptospirosis is a communicable disease known in man as Weil's disease and found in the dog and the rat. *Leptospira icterohemorrhagicae* or *Leptospira canicola*, the infective agents, are indistinguishable morphologically, both being motile, non-flagellated spirochetes. It is thought that the rat is a very important factor in the transmission of the disease either by direct biting or through the contamination of water, soil, or food. In the early stages of the infection the organism is found in large numbers in the urine, thus adding greatly to the possibility of transmission.

The etiology of the five cases presented to the clinic was differentiated as being *L. icterohemorrhagicae* which is more prominently characterized by icterus of the mucous membranes and the skin than is evidence in the canicola infection.

The initial symptoms evidenced were vomiting, anorexia and developing icterus of the mucous membranes which was most prominent in the sclera of the eye. The ages of the cases presented ranged from five months to seven years, three of which were females and two males. These dogs grew progressively worse and death occurred within 5 to 10 days after the initial symptoms.

Upon post mortem examination the lesions found were pronounced icterus,

pulmonary hemorrhage, petechiae on the bladder and kidney, and occasionally on the heart and the stomach. The spleen appeared normal in all cases.

The laboratory diagnosis consists of making dilutions of 1:10, 1:100, and 1:1000 of the clear blood serum from the suspect. The same dilutions may be made of a supplied known positive serum for comparison. One drop of each dilution is placed on a glass plate and to each drop of the serum is added two drops of antigen and the two are carefully mixed. Readings are made before five minutes against a dark background. A positive diagnosis consists of the agglutination of the first two titres plus the indicative clinical findings. The serum from a recovered animal will agglutinate all three titres for a period of three years or more indicating that a lasting immunity is acquired.

Various methods of treatment have been recommended. However one of the most successful methods of therapeutics reported has been the administration of immune serum of a blood transfusion

from a recovered animal. Biological vaccines have been reported to give dogs a high degree of immunity against the infection. Treatment with drugs has not as yet proved to be beneficial to any appreciable extent.

REFERENCES

1. Canine Leptospirosis. N. Am. Vet. 23:198-203. 1942.
2. Canine Leptospirosis. Vet. Med. 39:179-182. 1942.

—Stilaf Anderson, fall '43

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Repair of Fractured Femur Neck by Open Reduction. Fractures of the neck of the femur in the dog are rarely encountered. When seen, they present a difficult problem of repair. This is because it is difficult to apply splints to immobilize the fracture while healing occurs.

An 8-month old male, Wire-haired Terrier, weighing 20 pounds was examined for a left hind leg lameness. The lameness had resulted from an unknown injury 30 days previously. The leg was held in a fashion similar to that seen in a coxofemoral luxation. The limb could be moved in all directions with very little discomfort to the patient. There was a well defined circumscribed swelling protruding laterally in the region of the trochanter major. As the femur was moved forward and backward, definite crepitations could be felt in the region of the swelling.

X-ray examination showed a well marked fracture line extending across the neck of the femur close to the line of ossification. It was decided to attempt to repair the injury by fixing the proximal end of the shaft to the surgical neck with a screw applied in a manner described in human orthopedics.

Success of such an operation depends on two factors; (1) strict asepsis, and (2) directing the peg so that the fractured ends are in correct apposition. Strict asepsis is necessary because bones will not heal in the presence of sepsis, and the ability to combat and absorb infection is very limited in muscle and bone. It is necessary, because of this

fact, to use the utmost precaution to insure complete sterility in this operation.

A large area was shaved at the site of the operation. The animal was anesthetized by the morphine sulfate, intravenous nembutal method. The skin was scrubbed with ether and sterile gauze. When dry, the surface was scrubbed with tincture of green soap for 15 minutes with the aid of a sterile brush. Alcohol was applied and, when dry, wet packs of tincture of phenyl mercuric nitrate, 1:3000, covered the area for 30 minutes.

The operators wore masks, caps, sterile gowns and gloves. The operative field was draped with four double towels and the patient was entirely covered with a sterile shroud of double thickness. A four inch incision was made directly over the trochanter major parallel with the femur. When the incision was made, the skin was dissected back 1½ inches on either side of the line of incision to prevent the skin from coming in contact with the wound or the operator's hands. The tensor fascia lata was divided parallel to the incision for a distance of three inches exposing the trochanter major of the femur. The attendant upon direction by the operator adjusted the femur until the two fracture lines were in apposition. Then by the use of an ordinary one millimeter drill bit, directed slightly anterior and dorsally, a hole was drilled from the base of the crest of the trochanter major medially through it and across the trochanteric fossa into the surgical neck just below the head of the femur. The hole was drilled to a depth of approximately one inch.

The drill bit was withdrawn and a one inch vitallium screw was inserted into the hole by means of a screw driver. The parts were tested for mobility by extending and flexing the joint. Thirty grains of sterile sulfanilamide powder were placed in the wound. The fascia and subcutaneous tissue were repaired by chromic catgut and the skin edges brought together by interrupted mattress sutures. A post operative x-ray revealed that the fractured ends were in