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## Abstracts

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# ABSTRACTS



**TREATMENT OF KETOSIS IN DAIRY CATTLE WITH SODIUM PROPIONATE.** Ketosis is a problem of farm animals limited to the ruminants. It has been well established by Elsdon and others that the lower fatty acids are important products of normal bacterial fermentation in the rumen. Acetic, propionic, and butyric acids are the important ones produced under normal conditions.

Ketosis treatments are difficult to evaluate because some cows will recover without treatment. It is extremely doubtful whether any ketosis treatment will work on all cows because of the complicated nature of the disease. This experiment was performed because it was felt that the use of sodium propionate should prove helpful in reducing losses from ketosis.

In this experiment 19 cows with ketosis, ranging from mild to severe, were treated by oral administration of sodium propionate at levels of  $\frac{1}{8}$  to  $\frac{1}{2}$  lb. daily. All showed increases in milk production and improvement of appetite. At the end of ten days or less of treatment, blood sugar values were normal in all the cows and the blood ketones had returned to normal in all but three cases.

It is felt that the use of sodium propionate will prove helpful in the control of ketosis, but because some of the cases were mild and because of a certain amount of spontaneous recovery, these results should be interpreted conservatively.

(Schultz, L. H., Treatment of Keotsis in Dairy Cattle With Sodium Propionate. The Cornell Veterinarian. 42: 148-155 (Jan.) 1952).

**THE PATHOLOGY AND SYMPTOMATOLOGY OF TRANSMISSIBLE GASTROENTERITIS.** The information in this article was derived from the observation of 552 experimentally infected baby pigs and from 15 naturally infected herds.

This disease usually ran a short course. Young pigs died within two to seven days after exposure whereas the older swine usually recovered in seven to ten days. The incubation period commonly varied from one day to a week, but even longer periods were observed.

The first symptoms noted to appear in sows were anorexia, vomiting, and diarrhea. Light colored feces were observed as the disease progressed. A loss of weight, dehydration, and weakness developed in sows that continued to scour. Agalactia was observed. Some sows were even thought to have starved to death.

The symptoms observed in pigs under one week of age were usually diarrhea, vomiting, dehydration, emaciation, prostration and death. The fluid feces were fetid and varied in color from whitish to yellowish green. Approximately 90 to 100 per cent of the visibly affected pigs that were less than one week of age died. The death rate gradually decreased in older pigs. In pigs 3 weeks of age approximately 40 to 60 percent recovered.

The tissue changes observed in the mucosa of the gastrointestinal tract varied from congestion of the terminal blood vessels to desquamation of the epithelium, necrosis, and cellular infil-

tration. Congestion of the blood vessels of the renal cortex and medulla and desquamation of some renal tubular epithelium were commonly found. Inclusion bodies were not observed in the haematoxylin and eosin stained sections observed by these workers.

In summary, this is an acute disease characterized by diarrhea, vomiting, dehydration, and a high death loss in baby pigs. On postmortem examination there may be found, singly or in combinations, gastritis, enteritis, degeneration of the kidneys, congestion of the mesenteric blood vessels, and atony of the fluid-filled intestines. The tissue changes were observed to be largely limited to the gastrointestinal tract and kidney.

(Bay, W. W., D.V.M., M.S.; Doyle, L. P., D.V.M., M.S., Ph.D.; Hutchings, L. M., D.V.M., M.S., Ph.D. The Pathology and Symptomatology of Transmissible Gastroenteritis. American Journal of Veterinary Research XII: 215-218, July 1951.)

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**EXPERIMENTAL Q FEVER IN CATS.** In many reports concerning Q fever, efforts have been directed toward finding an epidemiological relationship between infection in human beings and the various animal reservoirs of *Coxiella burnettii*. Some workers believe that the immediate source of infection in man is air contaminated by infected animals, but that the infection is not spread directly between people, even though they eliminate organisms in sputum and urine. In spite of considerable work, it seems that there are sources and means of transmission not entirely known.

Cats were chosen for this study because of their habits as they might bring the infection from natural sources to contaminate the air of man's environment. Infection of these cats with *Coxiella burnettii* was produced by subcutaneous inoculation, by feeding, and by contact exposure. Most of the cats inoculated subcutaneously showed fever, lack of appetite, and lethargy that began two days

after inoculation and lasted for three days. The rest of the cats infected experimentally did not show signs of illness. The organism was present in the blood of some cats for one month following inoculation and for two months in the urine. With one exception, complement-fixing antibodies or agglutinins were demonstrated in the sera of these infected cats. This ability of *Coxiella burnettii* to infect cats suggests that they may be a factor in the spread of Q fever to man.

(Gillespie, J. H., V.M.D., Baker, J. A., D.V.M., Ph.D., Experimental Q Fever in Cats. American Journal of Veterinary Research XIII: 91-94 Jan. 1952.)

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## RENAL LESIONS IN LEPTOSPIRA CANICOLA INFECTION IN DOGS.

Pathologically, the interstitial nephritis which occurs in dogs due to *Leptospira canicola* can be divided into acute, subacute and chronic types. From material available it appears that the usual course of events, especially in young dogs, is for the acute to progress through the subacute to the chronic stage.

The renal lesion of *Leptospira canicola* infection in dogs is interstitial nephritis manifested in the acute stage by intense cellular infiltration of the kidneys which is followed by scarring and fibrosis. In the most severe cases the cellular infiltration is localized predominantly to the cortico-medullary region and the possibility is discussed that this distribution of the exudate is attributable to the renal vascular shunt. Such localization naturally affects the distribution of the scar tissue and governs the pattern of the renal fibrosis.

It has been possible to trace the evolution of the disease from the acute to the chronic stage in 6 days and from that and other evidence to conclude that in young dogs a period of about two years is probably required for the development of granular contracted kidneys from this cause.

(McIntyre, W. I. M., and Montgomery, G. L., Renal Lesions in *Leptospira canicola* Infection in Dogs. Jour. of Path. and Bact., LXIV: 145-159 Jan. 1952.)

**ANIMAL PARASITES TRANSMISSIBLE TO MAN.** Quite often a veterinarian will report that one of his clients has been ordered by the family physician to dispose of his dog or cat because a child has a certain parasite. Occasionally physicians send in specimens requesting identification of an animal parasite found in children. It is true that man may contract parasites from lower animals, but in many instances the parasites in question are human parasites, and the infection is not contracted from animals.

Some of the parasites transmitted more frequently from animal to man are listed in outline form:

**I. ENDOPARASITES**

**A. Obtained directly through meat improperly cooked.**

1. *Trichinella spiralis*—in pork
2. *Taenia solium*—in pork
3. *Taenia saginata*—in beef
4. *Diphyllobothrium latum*—in fish

**B. Obtained by contact with animals and by ingesting parasite eggs.**

1. *Echinococcus granulosus*—from the dog.
2. *Hymenolepis nana*—from the rat
3. *Dipylidium caninum*—from the dog
4. *Balantidium coli*—from the swine
5. *Ancylostoma braziliense*—from the dog and cat

**II. ENDOPARASITES OF MAN IN WHICH ANIMALS MAY SERVE AS RESERVOIRS.**

- A. *Diphyllobothrium latum*—maintained in the bear and possibly the dog and cat.
- B. *Strongyloides stercoralis*—experimentally transmissible to dogs and cats.

**III. ECTOPARASITES OF ANIMALS THAT ATTACK MAN.**

- A. Fleas.
- B. Biting flies.
- C. Sarcoptic mange mites.
- D. Ticks.

(Turk, R. D., Animal Parasites Transmissible To Man. The Southwestern Veterinarian. V: 117-119. Winter 1952.)

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