A CHECK ON THE INCIDENCE OF TRICHINOSIS IN SWINE ON SIX PIGGERIES IN BRITISH COLUMBIA

By JOAN M. TAILYOUR and MARGARET J. HAMPTON*

In September, 1949 Moynihan and Musfeldt (1) in reporting on a study designed to determine the incidence of infection by \textit{Trichinella spiralis} in swine in British Columbia demonstrated an incidence of infection of 4.5 per cent of all specimens examined. These workers found that infection was limited to hogs shipped from eight garbage feeding establishments. Forty-eight (10.1%) of the 471 diaphragms received from the eight piggeries in question harboured larvae of \textit{T. spiralis}. A heavy rat population was noted on the premises involved and the above mentioned workers demonstrated trichinosis in rats collected at three of the piggeries from which positive hog tissue originated. It was suggested that the rat may play at least a minor role in the epidemiology of the disease.

As a result of this report, the proprietors in question moved their establishments to new locations on the lower mainland of British Columbia and adopted rigid rodent control programs. From October, 1952 to March, 1953 a total of 270 hog diaphragms from six of the piggeries were examined for trichinellid larvae employing the digestion-Baerman technique. All specimens were negative.

The negative results are most encouraging and would tend to justify the cost entailed in moving the swine populations to new locations; locations which lend themselves to rat control programs.

Workers in the past have attached little importance to the role of the rat in the epidemiology of trichinosis. All are of the opinion, however, that rats may act as a minor source of infection to hogs. At San Francisco, Hobmaier and Geiger (2) recorded an incidence of infection of 15.0 per cent amongst swine fed on garbage in that area. Following rodent control programs the incidence of infection amongst garbage-fed hogs, as reported by McNaught and Zapata (3) was reduced to 4.04 per cent. The report presented herein would further suggest that rodent depopulation should be considered when one is faced with the problem of controlling trichinosis in swine.

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*Animal Pathology, Division, Canada Department of Agriculture, Branch Laboratory Pacific Area, Vancouver, B.C.

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REFERENCES


EFFECT OF HEPARIN IN NEPHROSIS

A number of recent studies have described the clearing effect of heparin and related substances on the turbidity of lipaemic plasma. It appears to do so by converting the large lipoproteins to smaller forms. The phenomenon drew particular attention because of its possible application in arteriosclerosis in which the levels of beta-lipoproteins may be elevated or the ratio of cholesterol to phospholipid in the plasma increased. It is now reported by Rosenman (J. Clin. Invest., 1954: 33: 960) that heparin will prevent or profoundly modify the nephrotic syndrome in rats induced by the injection of anti-rat kidney serum prepared in rabbits. The marked oedema, ascites, lipaemia, and hypercholesterolemia noted in the control animals was not observed in the rats treated continuously with heparin. The nephrotic state developed in the experimental animals, however, within 48 hours of cessation of heparin therapy.

ANTIBODY SYNTHESIS IN VITRO

A recent report by Sanford, Favour, and Lindsay (J. Clin. Invest., 33, 962, 1954) throws further light on the controversy over the role of the lymphocyte in antibody production. These investigators prepared an antiserum in rabbits against the enzyme urease, the activity of the antibody being measured by its inhibition of ammonia and carbon dioxide release from a urea substrate by a known amount of the enzyme. Both spleen tissue and circulating lymphocytes from the immunized rabbits released antibody when incubated in vitro even in the presence of toluol, which inhibited cellular respiration. An additional quantity of antibody was, however, produced by the splenic tissue when its metabolic activity was allowed to continue, whereas the lymphocyte showed no such increase. The authors concluded that the circulating lymphocyte may carry antibody and release it but does not have the capacity for synthesis in vitro which is inherent in splenic tissue in association with plasmacytic maturation.