Jap. J. vet. Res., **23**, 144~145 (1975)

INFORMATION

Hokkaido University granted the degree of Doctor of Veterinary Medicine to the following 2 researchers on 30 September, 1975 under a new regulation (1962) authorizing the granting of the Graduate School of Veterinary Medicine.

The titles of their theses and other information are as follows:

PATHOLOGICAL STUDIES ON BOVINE ENZOOTIC DIARRHEA

Hiroshi FUJIWARA
Research Center, Nihon Nosan Kogyo Co., Ltd.
Yokohama, Kanagawa, Japan

Since spring, 1966, "bovine enzootic diarrhea" with pyrexia and diarrhea as the main symptoms has been breaking out among pastured cattle in Japan. From the results of epizootiological, clinical, etiological, and pathological examinations, it has become clear that the disease is an infectious one which differs from any previously recognized bovine disease. In this study, young affected Holstein cattle showed symptoms of the disease from 7 to 14 days after they were sent to pasture. In severe cases the disease became so acute that death occurred within a day or two.

Eight strains of an adenovirus were isolated from autopsy case 1 and from four clinically affected cattle of the same herd as case 1. The isolated virus was identified as serotype 7 of bovine adenovirus on the basis of its physico-chemical properties and the cross-neutralization test.

Pathological investigation was carried out on twelve simultaneously affected cows, consisting of eleven fatal cases found in eight pastures and one fatal case detected in the barn. In the postmortem examination, the spleen showed an increase in blood content and indistinct Malpighian bodies. The liver was fragile, with petechiae scattered over its capsule. Grayish white spots were observed on its capsule and in its parenchyma. The kidneys were dark red and contained a large quantity of blood. The entire small intestine contained dark-red ingesta mixed with a large quantity of mucous. Its mucous membrane was markedly edematous and showed petechial hemorrhages. The large intestine revealed dark green fluid. Its mucous membrane was edematous and reddish brown in color. Edema was often seen in the mesenteric and subcutaneous lymph nodes. The main histopathological changes characteristic of this disease were acute catarrhal gastroenteritis, degeneration of the lymphatic system,

parenchymal degeneration, proliferation of the reticuloendothelial cells, and the formation of intranuclear inclusion bodies in the endothelial and adventitial cells of the small blood vessels.

Electron microscopy revealed that the intranuclear inclusion bodies contained virus particles. The virus particles showed a crystalline array in the nucleus and took a spherical shape (ca. 80 nm in diameter). Morphologically, they were quite similar to those of typical adenovirus.

It is suggested that bovine enzootic diarrhea is caused by bovine adenovirus on the basis of virus isolation, detection of inclusion bodies with viral particles and various serological examinations. It is appearent from clinical and pathological findings that the disease described here is a new, independent entity of the disease.

STUDIES ON GENE ACTIVATION IN CELLS INDUCED BY INFECTION WITH INFECTIOUS CANINE HEPATITIS VIRUS

Morikazu SHINAGAWA

Department of Hygiene and Microbiology
Faculty of Veterinary Medicine
Hokkaido University, Sapporo, Japan

Original reports of this thesis appeared in "Japanese Journal of Microbiology" Vol. 17, 71~74 (1973), and "Virology" Vol. 66, 161~171 (1975).