HOKKAIDO UNIVERSITY

Title	AN ATTEMPT TO IDENTIFY PUTATIVE NEUROTRANSMITTER SUBSTANCE RELEASED FROM THE NON-ADRENERGIC INHIBITORY FIBERS IN THE VAGAL SUPPLY TO THE GUINEA-PIG STOMACH
Author(s)	ISHIZUKA, Tohru
Citation	Japanese Journal of Veterinary Research, 22(3), 101-102
Issue Date	1974-07
Doc URL	https://hdl.handle.net/2115/2052
Type	departmental bulletin paper
File Information	KJ00002371167.pdf

Hokkaido University Collection of Scholarly and Academic Papers : HUSCAP

was smaller than that of the hemocytoblastic lymphoid cells. Distinct lymphoid tumors were frequently observed in the bursa of Fabricius, bone marrow, liver, spleen, kidneys and gonads. No significant lesions were seen in the nervous system. It appeared that the pathogenesis of LL is morphologically closely related to the bursa-dependent lymphoid system.

In the lesions of MD, neural involvement was recognized in all cases examined and the lymphoid tumors were extensively distributed throughout the various organs and tissues. In the lymphoid tumors of MD, the author recognized a new type of lesion (T_{II+III} type) (relatively undifferentiated type), in addition to the T_I, T_{II} and T_{III} type lesions named by FUJIMOTO et al. (1971). The T_{II+III} type lesion was an intermediate one between the T_{II} and T_{III} type lesions, and consisted of pleomorphic lymphoid cells varying in size and maturity (T_{II} type lesion) and undifferentiated reticulum cells. The T_{III} type lesion (extremely undifferentiated type) consisted of predominantly undifferentiated reticulum cells. Ultrastructures of T_{II+III} and T_{III} type lesions which had not been reported are presented. Electron-microscopically the undifferentiated reticulum cells were considered as intermediate cells between undifferentiated lymphoid cells and reticulum cells.

AN ATTEMPT TO IDENTIFY PUTATIVE NEUROTRANSMITTER SUBSTANCE RELEASED FROM THE NON-ADRENERGIC INHIBITORY FIBERS IN THE VAGAL SUPPLY TO THE GUINEA-PIG STOMACH

Tohru ISHIZUKA

Department of Veterinary Pharmacology
Faculty of Veterinary Medicine
Hokkaido University, Sapporo, Japan

The main purpose of this work is to investigate whether ATP or related compounds would be released following the stimulation of vagal non-adrenergic inhibitory innervation to the stomach.

Isolated preparations of guinea-pig stomach-vagus nerves were perfused with a nutrient medium via the coeliac artery. Purine and pyrimidine compounds in the perfusate were analyzed by means of paperchromatography.

The results obtained are summarized as follows.

1) Hypoxanthine and uridine: a trace of xanthine and adenosine and two other non-adenine compounds were detected in the perfusate, which had been recycled for thirty minutes. In addition to these materials, inosine was found

in the unrecycled perfusate.

2) Stimulation of the non-adrenergic inhibitory nerves did not cause an increase of any of these compounds in the perfused solution, recycled or not.

3) Hypoxanthine and inosine increased when the nutrient medium containing ATP was perfused continually for thirty minutes.

4) Any detectable material changes could not be seen by this analytical method when blood was added to the nutrient medium, through the vasculature.

From these results, no evidence could be obtained which would support the hypothesis that ATP is the non-adrenergic inhibitory neurotransmitter substance.

EXPERIMENTAL STUDIES ON INTESTINAL OBSTRUCTION IN DOGS: ITS CLINICAL AND HEMATOLOGICAL FINDINGS ON ILEUM OBSTRUCTION

Ken-ichi MATSUBARA

Department of Veterinary Surgery
Faculty of Veterinary Medicine
Hokkaido University, Sapporo, Japan

In order to obtain basic data for clinical application to the intestinal obstruction in dogs, clinical and hematological examinations were carried out using 5 healthy dogs. The animals were about 40 to 50 weeks of age and both sexes were used. Experimental obstruction was established by severing the end portion of the ileum. The following results were obtained.

1) The survival periods were 7, 8 and 15 days in 3 dogs which showed remarkable vomiting, and were 26 and 28 days in 2 dogs which showed only slight vomiting.

2) The following three manifestive stages are distinguished according to the clinical and hematological findings: i) The early stage (General conditions were good and hemoconcentration was observed); ii) The intermediately stage (General conditions deteriorated being associated with dehydration); iii) The last stage (The animals showed the symptom like exhaustion, and increase in BUN was observed).

3) Decrease in plasma chloride, increase in plasma CO_2 content and rise of whole blood pH were observed. These suggested that hypochloremic or metabolic alkalosis was assured, and it may be due to the depletion of digestive juice caused by vomiting.