INFORMATION

Hokkaido University granted the degree of Doctor of Veterinary Medicine to the following researchers in December 1966 and March 1967 under a new regulation (1962) authorizing the granting of the Doctors degree to qualified researchers who are not graduates of the Post-Graduate School.

December 25, 1966—Mr. Tetsuo SENTA

March 25, 1967—Mr. Yoshikazu NAKAZATO

The authors' summaries of the theses are as follows:

EXPERIMENTAL INVESTIGATION OF ELECTROCARDIOGRAMS IN THE GOAT*

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In order to clarify the derivation of the body surface potentials in goats, unipolar precordial lead electrocardiograms, direct lead epicardiograms, and intracavity lead electrograms were recorded.

The onset of the QRS complex in unipolar lead electrocardiograms was positive in the lower breast and negative in the remaining areas. The midterm deflection varied. In some cases, it was positive in wide areas including the shoulders, withers, back, dorsal thorax, and abdomen, negative in a narrow area of the lower breast, negative-positive in the cranial transitional zone, and positive-negative in the caudal transitional zone. In other cases, it was positive over the shoulders and withers, negative in wide areas including the lower breast, the lower thorax and abdomen, positive-negative over the anterior breast, and negative-positive over the caudal half of the back. The termination was negative over the lower breast and abdomen and positive over the shoulders, withers and back in all cases.

The QRS complex of the right ventricle in direct lead epicardiograms was mainly qR or RS in the basilar, rS in the middle, and rS or RS in the apical areas. That of the left ventricle was qR in the basilar and rS or RS in the middle and apical areas. The QRS complex in intracavity lead electrograms was rS in the right and QS in the left ventricular cavity.

The activation wave was found to reach three points on the middle area of

* The original report of this work will appear in "Jap. J. vet. Sci." in the near future.

the left ventricular epicardial surface at different times.

These results may show the fact that the subendocardial musculature of the left ventricle is activated uniformly, but that the subepicardial musculature is activated not uniformly, but irregularly, and electromotive forces of the subendocardial musculature are much stronger than those of the subepicardial musculature, and vice versa.

Also, in unipolar precordial lead electrocardiograms, the deflection at the onset of QRS may be derived from the activation of the interventricular septum, at midterm from the activation of almost all areas of the ventricles, except the basilar area, and at the termination of QRS from the activation of the basilar area of the ventricle.

ANALYSIS OF THE REFLEX POTENTIAL IN THE VAGUS NERVE*

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To elucidate physiological as well as pharmacological properties of the reflex potentials of the vagus nerve in response to the afferent stimulation of the vagus, great splanchnic or sciatic nerve, these experiments were undertaken in cats under chloralose anesthesia.

1) The reflex potentials of the cervical vagus nerve were related to the reflex activation of both somatic and autonomic nerve fibers in the vagus nerve. In the thoracic and abdominal vagus nerve, however, the reflex potentials were due to activation of the autonomic fibers. The reflex potentials of the recurrent nerve, on the other hand, were presented by activation of the somatic fibers.

The activation of autonomic fibers was mainly elicited by vagal stimulation and the somatic fibers were activated by the stimulation of the vagus, great splanchnic or sciatic nerve.

2) In view of the results obtained by the transection or sagittal section of the brain stem, it was confirmed that the afferent volleys of the vagus nerve were relayed to the contralateral vagus nerve via the midline region, which was delimited between ca. 1 mm rostral to and 3 mm caudal to the obex in the

* A part of these works appeared in "Jap. J. Pharmoc." **16**, 117, 1966 and another part will be published in "J. physiol. Soc. Japan" (in Japanese with English summary) in near future.