INFORMATION

Hokkaido University granted the degree of Doctor of Veterinary Medicine to the following researchers in September and December 1965 under a new regulation (1962) authorizing the granting of the Doctors degree to qualified researchers who are not graduates of the Post-Graduate School.

September 30–Mr. M. MIYAGI, Mr. A. MATSUHASHI and Mr. S. YAMADA
December 25–Mr. T. TIBA

The authors' summaries of the theses are as follows:

CHANGES IN THE ARTERIA UTERINA MEDIA OF COWS CAUSED BY PREGNANCY*

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In this study emphasis is placed on the following two points: first, changes in the involution process of the corpus luteum during pregnancy in cows; and second, changes in the arteria uterina media caused by parturition frequency. Ovaries and uteri for the studies were collected from 90 Holstein breed cows and heifers.

In the first study, the corpus luteum of menstruation was found to disappear by organization or by resorption at about 15 months dating from the onset of heat. As pregnancy progresses the corpus luteum undergo involution into the "corpus rubrum with white spots" as the 1st stage and finally into the corpus albicans about 5~10 months following parturition. It is believed that the corpora remain in the ovary and are not resorbed during the cow's life.

In eight cows whose parturition histories were accurately recorded the total number of "corpus rubrum with white spots" and albicans is exactly same as the parturition frequency. Consequently it is felt that it is possible to estimate parturition frequency correctly by counting the number of these bodies present on the ovaries of the cow.

* The original report of this work will appear in "the Science Bulletin of the Division of Agriculture, Home Economics & Engineering, University of the Ryukyus", Okinawa in the near future.

In the second study gravid cows were found to show prominent sclerotic changes in the tunica intima of their arterinae uterinae mediae, i.e. prominent hyperplastic swelling of the tunica intima, hyperplastic smooth muscle fibers and interstitial ground substance. In the region of hyperplastic swelling of the tunica intima, one or more concentric layers of elastic membrane are clearly seen. This appearance is considered to represent gravidity sclerosis in the cow.

In many cases (35%) the number of layers of elastic membrane is exactly same as the parturition frequency. The appearance of sclerotic gestation layers ("sclerotic gestation rings", which TAKAHATA and others advocated) becomes more noticeable as parturition frequency increases.

STUDIES ON RESPONSES TO MORPHINE HYDROCHLORIDE IN DOGS AND SOME CLINICAL EVALUATIONS*

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The experiment was conducted to establish criteria for the use of morphine in veterinary clinics. A one percent solution of morphine hydrochloride was administered to dogs, either intravenously (A_1) or subcutaneously (A_2) in doses of 1 mg (D_1), 10 mg (D_2) and 30 mg (D_3) per kg of body weight, and comparative biochemical studies and clinical examinations were carried out immediately, 24 hours following administration.

The results may be summarized as follows:

The difference between A_1 and A_2 was significant in the changes of eosinophil count, blood sugar, blood CO_2, blood Pco_2, blood HCO_3^-, blood H_2CO_3 and blood B_B^+, and was insignificant in the changes of red cell count, white cell count, blood O_2, blood pH and Ht. Comparison between A_1 and A_2 generally indicated that A_1 produced not only a more rapid effect, but smoother recovery.

Comparison between D_1, D_2 and D_3 indicated that an increased dosage produced increased effect. Only slight changes were produced by D_1, but considerable changes were observed by D_2 and D_3. Changes of serum proteins and liver functions were slight, irrespective of the administered methods or doses.

In clinical symptoms, the considerable difference between A_1 and A_2 was the

* The original report of this work will appear in this Journal in the near future.