



HOKKAIDO UNIVERSITY

Title	ENHANCEMENT OF PLASMIN ACTIVITY IN SWINE PLASMA BY THE ENDOTOXIN OF HEMOLYTIC ESCHERICHIA COLI (O139)
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coincident with the inspiratory phase of respiration. However, a few nerve fibers discharged in the expiratory phase and some others showed tonic discharges.

2) Even after cessation of spontaneous respiration following succinylcholine administration, rhythmic bursts of discharges were still observed in the nerve fibers, showing some augmentation for a short period.

When artificial respiration was applied to these animals with arrested respiration, two types of grouping discharges were differentiated from the view point of their rhythmic discharges: one of them corresponded to the respiratory rhythm and the other did not.

3) Distinct mass reflex responses in the inferior laryngeal nerve with 6.0-12.0 msec latencies were recognized usually when single pulse stimulations were given to either the ipsilateral or contralateral superior laryngeal nerve, being accompanied by less distinct responses with long latencies of about 30-40 msec in some cases.

4) Mass reflex responses in the phrenic nerve with varied latencies ranging from about 16 to 70 msec were observed when single pulse stimulations were given to either the ipsilateral or contralateral superior laryngeal nerve, although these responses frequently could not be distinguished from random discharges in the nerve.

5) To summarize above noted results, it could be suggested that the efferent discharges in the inferior laryngeal nerve showed the activity of the respiratory center as a sensitive indicator.

Hokkaido University granted the degree of Master of Veterinary Medicine to the following 11 graduates of the Post-Graduate School on March 25, 1966. The authors' summaries of their theses are as follows:

**ENHANCEMENT OF PLASMIN ACTIVITY IN SWINE PLASMA BY
THE ENDOTOXIN OF HEMOLYTIC *ESCHERICHIA COLI* (O139)**

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(Summary of Masters thesis written under direction of Dr. T. HAGA)

Effects of the endotoxin extracted from hemolytic *Escherichia coli* (O139) on plasmin activity of swine plasma and its fractions were investigated. Results obtained are summarized as follows:

1) Plasmin activity in vitro was enhanced in swine plasma by the addition of the endotoxin, but the activity of euglobulin fraction was not increased by the endotoxin.

2) The supernatant, separated by the removal of euglobulin fraction precipitated isoelectrically at pH 5.2 from swine plasma, contains some factors necessary for the activation of plasminogen by the endotoxin.

3) The mixture of euglobulin fraction had considerable plasmin activity without the endotoxin. Higher plasmin activity than that of the mixture was obtained in the presence of the endotoxin. However, albumin fraction reduced the activity of this mixture.

4) Plasmin activity in vivo was also enhanced in swine plasma, one hour following injection of the endotoxin.

SEROLOGICAL STUDIES OF *CORYNEBACTERIUM RENALE*

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(Summary of Masters thesis written under direction of Dr. R. YANAGAWA)

Fifty-one strains of *Corynebacterium renale* were studied and classified serologically. This was done by the microgel diffusion technique, employing the antigen extracted with sodium desoxycholate.

The result was the differentiation, serologically, of three types of *Corynebacterium renale* strains, by the clear cut differences in the precipitin lines observed. The serological types were designated as serotype I, serotype II and serotype III. The frequency was as follows: Of the 51 strains, 53.1% belong to serotype I, 11.8% belong to serotype II and 35.1% belong to serotype III.

The number of the lines of precipitation were counted and described. It is hoped that this study will help other workers to identify these lines chemically and to make a detail classification.

The biochemical and the cultural behaviour, the colonial morphology and the microscopical characters of the strains were investigated, but the results obtained showed either a confused correlation or only limited correlation to the serological classification of strains of *Corynebacterium renale* studied.