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relatively high dilution. I also found they had at least three common precipitation 
lines in gel diffusion test.

5) In studying these 30 strains of mycoplasmas I found that their biological 
activity varied widely, especially the carbohydrate fermentation tests depending 
on methods used.

6) The thirty strains of mycoplasma isolated from chickens showing signs of 
CRD were classified into four groups by the gel diffusion test. Three strains 
of these organisms belong to M. gallisepticum, five to M. gallinarum, and one 
to M. iners. However, the remaining strains did not form any distinct precipi-
tation lines with the mycoplasms antiserums.

CLINICAL AND HEMATOLOGICAL OBSERVATIONS 
OF MORPHINE-PENTOBARBITAL ANESTHESIA IN DOGS

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(Summary of Master's thesis written under direction of Dr. T. SAKAI)

This experiment was carried out to establish the anesthetic effects of Sodium 
Pentobarbital (Nembutal) combined with morphine in dogs. We carried out our 
study in three phases:

1) We premedicated dogs with morphine administered intravenously (1 mg, 
3 mg and 6 mg per kg of body weight) and recorded our clinical observations and 
hematological findings (leucocyte count, eosinophil count and acid-base balance).

2) We administered Nembutal intravenous to dogs (8 mg, 16 mg, 20 mg and 
25 mg per kg of body weight) and recorded our clinical observations and hema-
tological findings.

3) We used a morphine-Nembutal combination (1 mg/kg of morphine given 
about 20-25 minutes before and 8 mg, 16 mg, 20 mg and 25 mg/kg of Nembutal) 
and recorded our findings as before.

A summary of the results follows:

1) Judging from a clinical point of view better results were achieved using 
1 mg/kg of morphine as a preanesthetic than using 3 mg/kg or 6 mg/kg.

2) Considerable variation was seen in the hematological observations of the 
group using just Nembutal whereas with the combination of morphine and 
Nembutal the results were constant.

3) The morphine-Nembutal combination achieved about twice the anesthetic
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effects as the same dose of Nembutal used alone.

4) The use of intravenous morphine (1 mg/kg) as a preanesthetic decreased
the total amount of Nembutal required for surgical anesthesia to two-third or
four-fifth of the standard anesthetic dose required when morphine was not used.

5) In a few cases a transient excitement period was observed with the
intravenous use of morphine at the dosage of 1 mg/kg and the running movements
seen with the use Nembutal did not disappear even in the morphine-Nembutal
combination.

ON THE FORMAL PATHOGENESIS OF ALIMENTARY CANAL
ULCERATION, WITH PARTICULAR REFERENCE
TO GASTRIC ULCERS, SEEN IN DOGS, CATS AND SWINE
—NEUROPATHOLOGICAL INVESTIGATIONS—

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(Summary of Masters thesis written under direction of Dr. Y. FUJIMOTO)

Histopathological investigations were conducted on the alimentary canals
(stomachs, small and large intestines, esophagi) and some autonomic nerves
innervating the alimentary canals (gastric plexuses, vagi, sympathetic trunks, and
anterior and posterior plexuses) from 29 dogs, 4 cats and 7 swine, each of them
taking various disease conditions of which names were pathologically diagnosed.
Each individual animal had macroscopical ulcerative lesions (erosions and ulcers)
in the stomach or in some segment of the alimentary canal (duodenum, jejunum,
ilium, rectum or esophagus).

Significant microscopical changes were observed in areas of the alimentary
channel having no relationship to the macroscopical lesions and in the autonomic
nerves. Those microscopical changes developed regardless of species, diseases or
cases, and had the common character. The changes were as follows: micro-
scopical ulcerative process (erosion), hydropic degeneration of the epithelium,
solution of continuity of the epithelium, edema of the lamina propria (primarily
pseudolaminar edema just beneath the epithelium), microvascular alteration (edema-
tous loosening and swelling of the walls of the small blood vessels), hydropic
degeneration of the smooth muscle, atrophy of the mucosa, mucosal calcinosis,
edematous induration of the lamina propria, squamous metaplasia of the epithelium