



HOKKAIDO UNIVERSITY

Title	EFFECTS OF ADMINISTRATION OF SODIUM BICARBONATE AND AMMONIUM CHLORIDE ON ACID-BASE BALANCE OF BODY FLUID IN SHEEP
Author(s)	KITA, Isao
Citation	Japanese Journal of Veterinary Research, 14(3-4), 130-130
Issue Date	1966-12
Doc URL	https://hdl.handle.net/2115/1851
Type	departmental bulletin paper
File Information	KJ00003418305.pdf



**EFFECTS OF ADMINISTRATION OF SODIUM BICARBONATE
AND AMMONIUM CHLORIDE ON ACID-BASE BALANCE
OF BODY FLUID IN SHEEP**

Isao KITA

*Department of Veterinary Internal Medicine
Faculty of Veterinary Medicine
Hokkaido University, Sapporo, Japan*

(Summary of Masters thesis written under direction of Dr. M. OHYA)

For the purpose of clarification of the effects on acid-base balance due to medications with NaHCO_3 and NH_4Cl in ruminants, the above mentioned drugs were administered orally and intravenously to 6 clinically healthy sheep. The results obtained are summarized as follows:

1) As a result of oral medications with NaHCO_3 , metabolic alkalosis occurred about 2 hours after medications in all of the groups. It continued for over 2 hours, over 6 and over 34 hours in each of the groups medicated at the rates of 0.5 g, 1.0 and 2.0 g per kg of body weight, respectively.

2) As a result of oral administrations of NH_4Cl , metabolic acidosis occurred about 8 hours after medications in all of the groups. It continued for over 28 and over 40 hours in the groups medicated at the rates of 0.2 and 0.5 g per kg of body weight, respectively.

3) Following the intravenous administrations of NaHCO_3 , metabolic alkalosis occurred, whereas metabolic acidosis occurred following the intravenous administration of NH_4Cl . Both changes were observed immediately after the injections, but were of shorter durations.

4) In all the experimental groups, a significant increase in the percentage of neutrophils and a decrease in the percentage of lymphocytes were observed, but changes of the total number of leukocytes were not significant at any time during the experimental course.