Bromine and chlorine concentrations in some tissues (liver, spleen, thymus) of healthy mice (normal group) and lymphomatous mice (lymphoma group) were determined by neutron activation analysis. There were significant differences in the Br concentrations of the tissues between the normal and lymphomatous group, while the Cl concentrations were found relatively constant in all the tissues. As a result, the Br/Cl ratios in the tissues of the lymphomatous group were significantly higher than those of the normal group. It was difficult to conclude that Br was absorbed into the bodies of lymphomatous mice more easily than was Cl. It is suggested that Br excretion from the body is suppressed.

INTRODUCTION

Bromine (Br) is one of the trace elements and is distributed widely in nature. It is believed that Br is not essential for organisms at present. However, Br variations in human bodies with certain diseases are
being reported recently. Bumbalova et al.\textsuperscript{1} reported elevation in the concentration of Br in whole blood obtained from patients with dilated cardiomyopathy. There is a report that Br is apparently elevated in heart tissue of patients who suffer uremic heart failure\textsuperscript{2}. However, there are no reports to date of Br variations in animal bodies with a disease.

In the present study, we examined the Br variations in the bodies of mice with lymphoma. The Br concentrations in some tissues of healthy and lymphomatous mice under the same breeding conditions were determined by neutron activation analysis. Furthermore, the authors investigated the dependence of Br concentrations and total amounts on the states of lymphoma.

MATERIALS AND METHODS

Animals

The mice used in the experiments were forty male and forty female AKR\textsuperscript{7}/J Sea, which were outbred in the Seiwa Laboratory Animal Cooperative Association of Japan. They were purchased at the age of 4 weeks. The mice were provided with fixed food (CE-2, Clea Co., Japan) and tap water ad libitum. They were maintained under conventional conditions. The room temperature was kept at 22±2 °C.

Autopsy

When they reached a designated age (150, 200, 250 or 270 d), the mice were killed by drawing blood from the heart under light ether anesthesia. At that time we confirmed whether they were affected with lymphoma or