CLINICO-PATHOLOGICAL CHANGES INDUCED IN RATS TREATED WITH AMINE-CURING AGENT FOR EPOXY RESIN, BIS(4-AMINO-3-METHYLCYCLOHEXYL)METHANE : Susumu ORSHIMA*, Toshikatsu SHIBATA*, Masako MIYASITA*, Masahiro ISHIZUKA*, Yoshihiko SHIMIZU*, Masaru FUJITA*, Norihiro SASAKI** and Hirokazu OKUDA** (*2nd Dept. of Pathology, Saitama Medical School, Saitama, Japan, **Occupational Health Service Center, Japan Industrial Safety and Health Association, Tokyo, Japan)

Amine-curing agent for epoxy resin, bis(4-amino-3-methylcyclohexyl)methane has been suspected to have induced in the workers such toxic symptoms and signs as some collagen diseases like scleroderma or polymyositis. Subacute toxicity of this agent was studied by its repeated oral administration to rats. The agent was given orally 5 times a week (from 25mg/kg in minimum to 100mg/kg in maximum per one dose) for periods from 10 days to 10 weeks. The animals showed some suppression of body weight increase in the administration period and serum biochemical examinations showed some elevation of muscle-derived components, ex. GOT or CPK. In the histopathological examination, skeltal muscles showed varied degrees of atrophy, degeneration and regeneration of muscle fiber, and the epithelial cells of choroid plexus in the brain ventricles represented varied degrees of vacoular change light microscopically. In the electron-microscopical study, round-shaped osmiophilic inclusion bodies which are 0.5-2.5μm in size, sometimes with lamellar structure, were found frequently in a lot of tissues. The changes in the skeletal muscles resemble those in chloroquine-induced myopathy though its pathogenesis is unknown. There are some similarities between the cytoplasmic inclusion bodies in the various tissues in these experiments and those in the congenital lipidosis or drug-induced lipidosis, so it is suggested morphologically that systemic lipidosis was induced by this agent.

CHANGES IN BLOOD AND URINE COMPONENTS BY EXPERIMENTAL RENAL TOXICITY IN RATS AND PIKAS: Yoshifumi TANIMOTO, Mariko HIRATA, Satoshi UNAKAMI, Kazuaki ICHINOHE, Shuzo SUZUKI and Yuji HATTORI (Dept. of Hematochemistry, Central Institute for Experimental Animals, Nogawa, Miyamae-ku, Kawasaki 213)

Changes in blood and urine components caused by experimental proximal tubular damage were studied in male Sprague-Dawley rats (14 weeks old) and pika (Ochotona rufescens, 18 weeks old). Renal damage was induced by repeated administration of Kanamycin (KM, 200 and 400 mg/kg, im) for 7 days. Measurements were made of 13 hematological items, 16 serum chemical items, 10 urine component items, and 5 kidney homogenate items. The rat group treated with 200 and 400 mg/kg of KM showed increased activities of GOT, LDH, NAG, and AIP in urine on the 3rd day, but on the 7th day significant enzyme activity findings were seen only in the 400 mg/kg group. In contrast, the pika group showed increased GOT and LDH activities on the 7th day of treatment with KM at 400 mg/kg. The urine concentrations of Na and Cl were decreased only in the high dose rat group on the 7th day. In the serum components, GOT, total cholesterol, BUN, and creatinine were increased dose dependently in the rat, with inversely proportional decrease of Na, K, and albumin. Very little change was found in the serum components in the pika. Hematological components showed only slight change except for fibrinogen in both species. These results suggested that the degree and pattern of vital responses to the renal toxicity were different in both species.