FILE NAME: Chemical Abstracts (CHAB)

DATE: 1964

DOC#: CHAB044

OCUMENT DESCRIPTION: Abstract Originally Published in 1963 by Davis

Significant increase of fragility was seen in 6 anemic patients. The type of coagulant used has no effect on fragility, but the obtained values are sensitive to the time of rotation during testing. 24 references. Andrew L. Reeves

Five cases of anuria from [acute] carbon tetrachloride poisoning. F. Heully, A. Larcan, G. Rauber, C. Huriet, G. Vaillant, and M. C. Aug (Clin. Med. A, Nancy, France). *Ann. Med. Nancy* 2(Sept.), 1184–95(1963). Toxicological., pathol., and biochem. aspects are described. The effects (described) of $CCl_4$ on the kidneys were particularly marked, with the production of a general renal insufficiency. One of the 5 cases was fatal. W. C. Tobie

Toxicity of water enriched with silver ions. D. I. Lazarenko, S. V. Chizhov, G. I. Kozyrevskaya, N. A. Gaidamkin, and N. D. Ermakovskii. *Gigiena i Sanit.* 29(2), 98–100(1964). Daily doses of 4 mg. $Ag^+$/kg. in the drinking water of rats increased the no. of leukocytes, but did not otherwise produce any observable effects on carbohydrate metabolism, blood compn. or histology. The amt. of $Ag^+$ which would be used in $H_2O$ purification would not be objectionable. John Howe Scott

Activation of the fibrinolytic system of the guinea pig following inoculation of Echis colorata venom. B. Moav, Ch. Moroz, and A. de Vries (Univ. Tel-Aviv, Israel). *Toxicon* 1(3), 109–12 (1963). The intravascular fibrinolysis occurring following injection of *E. colorata* venom in the guinea pig is due mainly to activation of its fibrinolytic system. Milton Feldstein

Comparative toxicity of refrigerants. F. Caujolle (C.N.R.S., Toulouse, France). *Bull. Inst. Intern. Froid* 44(1), 20–55 (1964)(in French and English). A review. SFTT

The significance of urine uranium excretion data. Morton Lippman, Long D. Y. Ong, and William B. Harris (U.S. At. Energy Comm., New York, N.Y.). *Am. Ind. Hyg. Assoc. J.* 25(1), 43–54(1964). Routine urine samples cannot be used to monitor individual exposures or to det. chronic exposure levels. Samples after the termination of the exposure can give estimates of exposure levels, future excretion rates, and body burdens. Wm. MacL. Pierce

Effect of DL-ethionine on the liver of dog and rabbit. Mario Alvizouri and Jaime Cortes (Med. School, Univ. Michoacana de San Nicolas, Hidalgo, Mexico). *Arch. Pathol.* 77, 57–63(1964). Dogs and rabbits were fed DL-ethionine and severe hepatic damage occurred, with hemorrhagic tendencies. The pancreatic lesions, which predominate after ethionine poisoning in the rat, were not severe. M. L. C. Bernheim

Experimental intoxication of dogs with sodium fluoroacetate. Clinical, anatomical, and histopathological investigation. F. Guarda and U. Dotta (Univ. Studi Turin, Italy). *Ann. Fac. Med. Vet. Torino* 12, 241–70(1962). In the acute expt., Na fluoroacetate (0.2–4 mg./kg.) produced excitement, myoclonus, convulsions, and death within 1–3 hrs. in dogs. There were diffuse hemorrhage in various parenchymas, cerebral edema, and lymphocyte infiltration into the Virchow-Robin spaces. In chronic expts. (0.02 mg./kg. on alternate days) the intoxication caused degeneration of the parenchymas, lymphocytic encephalitis and proliferation of the glial elements. GGJL

Biological action of beryllium. Reaction of the monkey to inhaled aerosols. G. W. H. Schepers (Inst. Forensic Med. Toxicol., Newark, Del.). *Ind. Med. Surg.* 33, 1–16(1964). Monkeys were exposed to aerosols of $BeF_2$ (I), $BeSO_4$ (II), and $BeHPO_4$ (III) for 7–30 days. The exposure concns. were 5.2 γ Be/cu. ft. for I and 5.6 γ Be for II and III. In a second study monkeys (4/dose level) were exposed to concns. of III of 5.6, 32, and 236 γ Be/cu. ft. for 30, 10, and 8 days, resp. I showed the highest toxicity. One monkey exposed to III (5.6 γ Be/cu. ft.) for a 30-day period died 45 days after termination of exposure. Exposures of monkeys to III at 32 and 236 γ Be/cu. ft. for 8–10 days resulted in death to all monkeys within 82 days after exposure. Seven of the 8 monkeys showed chem. pneumonitis. One monkey exposed to III (32 γ Be/cu. ft. for 10 days) showed alveolar carcinoma 82 days after the exposure. Changes in the liver, kidney, adrenals, thyroid, and spleen were also observed in monkeys exposed to I and II. W. L. Downs

Short-exposure inhalation toxicity of pentaborane in animals. Francis W. Weir, Van M. Seabaugh, Millard M. Mershon, David G. Burke, and Maurice H. Weeks (Edgewood Arsenal, Md.). *Toxicol. Appl. Pharmacol.* 6(1), 121–31(1964). The 5-, 10-, 30-, and 60-min. lethal concn.-50% values for rats exposed to $B_5H_9$(I) were 66.6, 31.2, 15.2 and 10.4 p.p.m., resp.; corresponding values for mice were 40.5, 18.6, 10.6, and 7.8 p.p.m. Toxic signs were tremors, ataxia, convulsions, a reddish exudate around the mouth and nose, and death. Exposure of dogs for 5-, 15-, and 60-min. periods to 26, 12, and 3 p.p.m. of I produced borderline signs of toxicity. Daily repeated exposures at approx. these levels caused convulsions, apprehensiveness, scleral injection, and miosis after the 2nd exposure. Single exposures at 9.3, 5.0, and 1.4 p.p.m. for 5-, 15- and 30-min. periods, resp., produced no detectable effects, but daily exposure for 5 days caused irritability, miosis, and increased response time in a conditioned avoidance-response test. Repeated exposure to 2.5 p.p.m. for 1 hr. with intervals of 24–96 hrs. between exposures showed accumulation of effects despite intervals as long as 96 hrs. between exposure. Cutaneous exposures (head not exposed) for 2-, 4-, and 6-hr. periods to 580, 550 and 710 p.p.m., resp., caused no or min. signs of toxicity. Concns. of B in serums and urine were made but changes in the conditioned avoidance response proved to be the most useful test in detecting early and residual effects in dogs. Frank A. Smith

Experimental study on nitroglycerol poisoning in rabbits. Effect of nitroglycerol on the blood. Hiromichi Hasegawa and Mitsuo Sato (Natl. Inst. Health, Kawasaki, Japan). *J. Biochem.* (Tokyo) 54, 58–64(1963). Subcutaneous injection of nitroglycerol to rabbit (0.3 g./kg.) caused rapid increases in methemoglobin content in blood and in the O affinity of the blood, in several hrs. These changes were restored approx. to the original levels in 24 hrs. No $NO_2$-methemoglobin was detectable in the blood after poisoning. Blood catalase activity was lowered sharply after nitroglycerol injection and it was recovered only partly in 24 hrs. F. K. Anan

Structural change of pyrophyllite by grinding, and its effect on toxicity of the cell. H. Hayashi, K. Koshi, A. Hamada, and H. Sakabe (Natl. Inst. Ind. Health, Tokyo). *Clay Sci.* (Tokyo) 1, 99–108(1962). Continued grinding of pyrophyllite (4–67 hrs.) results in progressive attenuation of the characteristic x-ray diffraction features of pyrophyllite and the formation of an aggregated amorphous product. Infrared absorption records show loss of O-H (stretching) and H-O-Al (bending) frequencies, loss of resoln. in Si-O stretching features, and important absorption of water. Dosages of the (amorphous) ground products to achieve a standard toxic effect on monocyte cultures are 2–5 times those necessary with unground pyrophyllite. W. F. Bradley

Ornithine carbamyl transferase activity in blood serum and liver of guinea pigs after $CCl_4$ intoxication. V. Neuman, V. Kulhanek, V. Maderova, and K. Sindelarova (Vet. Fac. Res. Inst. Traumatol., Brno, Czech.). *Acta Vet. Acad. Sci. Hung.* 13, 239–44(1963)(in English). Administration of $CCl_4$ to guinea pigs resulted in a marked increase of serum ornithine carbamyl transferase (I) beginning at 6 hrs. and reaching a max. of 70-fold the normal level 48 to 72 hrs. after the injection. At the same time liver activity of I decreased. At 72 to 96 hrs. after administration the enzyme activities of both serum and liver were tending to normal values. W. N. Anderson

Toxicology of organotin compounds. A literature review. A. M. Ivanitskii. *Farmakol. i Toksikol.* 26(5), 629–32(1963). 28 references. Julian F. Smith

The ultrastructural changes that occur during the transformation of lung macrophages to giant cells and fibroblasts in experimental asbestosis. J. M. G. Davis (Univ. Cambridge, Engl.). *Brit. J. Exptl. Pathol.* 44, 568–75(1963). A few days after exposure of rats and guinea pigs to chrysotile asbestos dust the lung macrophages carrying the dust fuse together by means of elongated processes and become giant cells. Fibroblasts were found to contain chrysotile dust, suggesting the transformation of macrophages into fibroblasts. M. L. C. Bernheim

Variability of the degree of provoked alcoholemia in the guinea pig. J. Seydoux and M. Fasel (Univ. Geneva, Switz.). *Helv. Physiol. Pharmacol. Acta* 21(3), C65-C67(1963)(in French). Guinea pigs were given 2.37 g./kg. of EtOH orally (enough to induce symptoms of inebriation) and blood samples were taken at intervals of 15 or 30 min. for the next 90 min. Blood alc. content at any particular time showed wide individual variations, ranging from 0.08 to 0.2% for the different animals. Sex or wt. of the individual was not a factor. L. E. Gilson

Ethionine pancreatitis [in rats]. O. Hartl, T. Muellner, A. Neumayr, and H. Pietschmann (Med. Universitaetsklin., Vienna). *Acta Hepato-Splenol.* 10(6), 368–78(1963). Groups of 10 female rats (150–200 g. wt.) were given 50, 100, 200, and 300 mg./100 g. of DL-ethionine (I) in physiol. saline by stomach tube. The rats were held for 48 hrs. without food (but with water available), then were sacrificed by bleeding. The lowest dosage of I had no gross effects on the internal organs but the 200 and 300 mg./100 g. doses produced extensive signs of acute pancreatitis and steatosis of the liver. The serum levels of various enzymes were detd. for each dose of I administered, in comparison with the same enzymes in the serum of rats which had received $CCl_4$ (0.2 ml./100 g.). Data are tabulated for serum alk. phosphatase (II), leucine aminopeptidase (III), glutamic-oxalacetic transaminase (IV), lactate dehydrogenase (V), fructosediphosphoric acid aldolase (VI), malate dehydrogenase (VII), and sorbitol dehydrogenase (VIII). Increasing amts. of I did not have any consistent effects on the levels of II, III, and VI. As the doses of I increased, serum IV decreased moderately and VIII decreased sharply, while V and VII increased about 3- and 2-fold, resp., from the lowest to the highest I dose. The rats which received $CCl_4$ showed relatively high levels of all serum enzymes (in comparison with the rats which received the smallest amt. of I) with the highest levels for V and VIII. Possible mechanisms of action of I in producing pathol. organ changes and alterations in serum enzymes are considered in relation to previous reports. 33 references. W. C. Tobie

The chronic oral toxicity of monomeric ethyl acrylate and