

Pb poisoning and manic depressive psychosis are discussed and the striking similarities between them noted. It is suggested that Pb may be a toxic determinant in this psychosis. The Davis test (Davis and Andelman, 1967) was used for the detn. of urinary δ -aminolevulinic acid (ALA) levels in patients and controls. Results showed an increasingly significant rise in ALA levels between controls and untreated patients and patients treated with Li_2CO_3 . Li may interfere with ALA synthesis in a similar way to Pb. 41 references.

S. M. Maxwell

89616s Effects of DTPA [diethylenetriaminepentaacetic acid] aerosol on lung contamination by lanthanum. Pasquier, Christian; Voisin, Dominique; Thiebaut, Pierre; Perrault, Gerard; Bayard, Jean P. (Dir. Prot. Surete Radiol., C.E.N., Fontenay-aux-Roses, Fr.). *Commis. Energ. At. [Fr.], Rep.* 1969, CEA-R-3735, 19 pp. (Fr.). Avail. CEA. By use of DTPA aerosol in the treatment of pulmonary contamination by La, its effectiveness was detd. as a function of time. Provided that it is administered at an early stage, in the 2 hrs. after exposure, >50% can be eliminated using lower therapeutic doses than those prescribed for other methods of administration. Its assocn. with some enzymes did not enhance the therapeutic effect of the chelator. The const. for the passage of the DTPA-La complex from the lung to the blood is $\sim 0.016/\text{min.}$, corresponding to a period of 44 min. A significant nonchelatable fraction, persisting after prolonged action of the DTPA, of the order of 40-45% is observed.

DWJF

89617t Ferric cyanoferrate(II): an effective antidote in thallium poisoning. Heydlauf, Horst (Inst. Strahlenbiol., Kernforschungszentrum, Karlsruhe, Ger.). *Eur. J. Pharmacol.* 1969, 6(3), 340-4 (Eng.). The influence of orally administered ferric cyanoferrate(II), (Prussian Blue, PB) on the distribution and excretion of ^{201}Tl was studied in the rat. PB lowered the retention of ^{201}Tl by inhibition of its absorption and reabsorption from the intestinal tract. The toxicity of Tl_2SO_4 was decreased by PB. PB is suggested as an antidote in Tl poisoning.

V. N. Gupta

89618u Cycloheximide-induced ultrastructural changes in the adrenal cortex of the rat. Dzsiniich, Cs.; Szabo, D.; Okros, I. (Inst. Exp. Med., Hung. Acad. Sci., Budapest, Hung.). *Experientia* 1969, 25(8), 835-6 (Eng.). Wistar rats of both sexes weighing about 180 g. were used. Conspicuous changes in the ultrastructure of the zona fasciculata cells were observed following decapitation at 30 min. even after the lowest (5 mg.) dose. At low-power magnification, compact masses of irregular shape, medium d. and blurred outlines were seen to have accumulated between organelles. In expts. involving both cycloheximide and ACTH treatment, the changes were similar, although the cells appeared swollen. Similar observations were made in some cells of the zona reticularis, but not in the zona glomerulosa. The findings suggested a correlation between the substance seen to accumulate among organelles and the increased cholesterol content of the adrenal cortex. The ultrastructural changes were the consequence of an impairment of the enzyme system.

P. J. Parisek

89619v Effect of acetone on the level of ketone bodies in the blood and urine of experimental animals of different species. Linyucheva, L. A.; Tiunov, L. A.; Kolosova, T. S. (USSR). *Farmakol. Toksikol. (Moscow)* 1969, 32(4), 465-7 (Russ.). Rats and mice exposed to 30 mg. $\text{Me}_2\text{CO}/\text{l.}$ and rabbits and guinea pigs exposed to 72 mg./l. for 2 hrs. showed increased levels of Me_2CO , acetoacetic acid, and β -hydroxybutyric acid in their blood and urine immediately after inhalation and 24 hrs. later. In all 4 species the β -hydroxybutyric acid level increased to a greater extent than did the other ketone bodies. The largest increases in the Me_2CO and acetoacetic acid levels in the blood both immediately and 24 hrs. after acute inhalation occurred in rats and the smallest changes appeared in rabbits.

BJJR

89620p Nature of the acute action exerted on the organism by monoethanolthylenediamine. Tikhonova, G. P.; Sidorov, K. K. (Inst. Med.-Biol. Probl., Moscow, USSR). *Farmakol. Toksikol. (Moscow)* 1969, 32(1), 473-5 (Russ.). Monoethanolthylenediamine (I) injected into the stomach of rats in a max. tolerable dose (2.5 g. kg. in 30% aq. soln.) disrupted the acid-base balance in the blood after 3-5 hrs., increased the pH from 7.18-7.35 (control) to 7.4-7.49, and increased the level of free bases. One day after I injection the Ca level in the serum increased, the time of blood coagulation decreased, the blood pH dropped to 7.11-7.21, and the amt. of free bases was below normal. The level of globulins decreased and the content of albumins increased in the blood; the level of chloides in the urine decreased. I caused necrosis in the liver and the destruction of the reticulate system organs, probably through direct prop. of I. 11 refs.

BJJR

89621q Changes in adrenaline-like substances in rabbit blood following chronic exposure to vinyl chloride fumes. Vazin, A. N.; Plokhova, E. I. (Inst. Gig. Tr. Profzabol., Gorki, USSR). *Gig. Tr. Prof. Zabol.* 1969, 13(6), 46-7 (Russ.). A group of 8 chinchilla rabbits was exposed for 4 hrs. daily, during 5 months, to the vapors of vinyl chloride (I) in air at 0.02-0.03 mg./l. Samples of blood were taken from the ear veins and analyzed for adrenaline (II) and adrenaline-like (IIa) substances.

Before the exposure to I and also in the control group of rabbits the II and IIa levels varied little and averaged 3.5 $\mu\text{g.}/\text{ml.}$. After 20 days exposure the level of II and IIa rose to 6.15 $\mu\text{g.}/\text{ml.}$ after 20 days it reached 6.6 $\mu\text{g.}/\text{ml.}$ and it remained const. thereafter. The biopotential of the posterior hypothalamus also changed. These effects of I are the direct cause of hypertension. CPJR

89622r ATP and lipid contents in the liver of mice after inhalation of chlorinated hydrocarbons. Ogata, Masana; Tomokuni, Katsumaro; Watanabe, Shinsaku (Med. Sch., Okayama Univ., Okayama, Japan). *Ind. Health (Kawasaki, Japan.)* 1968, 6(3), 116-9 (Eng.). The hepatic ATP level decrease and the onset of fatty liver as indicated by the increase in the amt. of the total lipids and triglycerides in the mice exposed to 3 kinds of chlorinated hydrocarbons are in the following order: CCl_4 , tetrachloroethylene, and trichloroethylene. The total lipid and triglyceride contents increased proportionately to the fall in the ATP level before and after the exposure to 3 kinds of chlorinated hydrocarbons. It was suggested that there is some close relationship between the decreased hepatic ATP levels and the development of fatty liver in chlorinated hydrocarbon poisonings.

B. V. Shetty

89623s Influence of subacute intoxication with manganese chloride and carbon tetrachloride on the lethal dose of digitoxin, lanatoside C, and strophanthoside in guinea pigs. Lence, P.; Valentincic-Budihna, Metka (Med. Fac., Ljubljana, Yugoslavia). *Ingoslar. Physiol. Pharmacol. Acta* 1968, 4(2), 157-64 (Eng.). In guinea pigs the toxicity of the title cardiotonic glucosides is modified in subacute intoxications with MnCl_2 and CCl_4 (when evident morphological changes are restricted to the liver). The following doses were used: 0.01 ml./kg. CCl_4 in 2% oil soln. and 0.003 g./kg. MnCl_2 in 3% aq. soln., i.m., twice a week, or 10 times successively; glucosides were administered 30-39 days after the last dose of CCl_4 or MnCl_2 . In intoxicated guinea pigs the lethal dose of digitoxin did not differ significantly from that of controls. The lethal dose of lanatoside C was significantly smaller only in CCl_4 treated animals and the lethal dose of strophanthoside was significantly smaller in both intoxicated groups.

G. Muncacic

89624t Antidotes for phosgene-induced pulmonary edema. Boyd, Eldon M. (Queen's Univ., Kingston, Ont.). *J. Pharm. Pharmacol.* 1969, 21(8), 557 (Eng.). Death rates from phosgene were reduced in rabbits, cats, and rats if the animals were allowed to inhale the phosgene through the nose rather than directly into the trachea.

David B. Sabine

89625u Demethylphalloin. Puchinger, Herwig; Wieland, Theodor (Univ. Frankfurt, Frankfurt, Ger.). *Justus Liebig's Ann. Chem.* 1969, 725, 238-40 (Ger.). Demethylphalloin-II (I) was obtained by redn. of the CO group of ketophalloin with ^{21}H -labeled NaBH_4 . I had almost the same toxicity as phalloidin. During storage I gave a degradation product whose uv spectrum indicated a sulfoxide structure.

BTJC

89626v Histochemical study of cytochrome oxidase and succinic dehydrogenase activity in encephalon of rabbits poisoned by alcohol. Lo Menzo, G.; Chiara, A. (Univ. Catania, Catania, Italy). *Med. Leg. Assicurazioni* 1968, 16(3-4), 163-72 (Eng.). An increase in both cytochrome oxidase and succinic dehydrogenase was observed in the cells of the cerebellar cortex of rabbits which had undergone either chronic or acute alc. poisoning, as compared to the nonpoisoned control animals. No change was evident in other encephalic regions. The increase of these enzymes at cerebellar level agrees with the symptomatological data indicative of functional damage of the area during alc. poisoning.

Murrice W. Burgan

89627w Nicotine degradation in hamsters and rats and its modification by foreign substances. II. Effect of carbon monoxide treatment of the animals on their nicotine metabolism. Harke, Hans P.; Frahm, B.; Schultz, Ch.; Döntenwill, W. (Inst. Wiss. Forschungstelle Verband, Cigarettenind., Hamburg, Ger.). *Naturwissenschaften* 1969, 56(8), 418 (Ger.). Degradation of nicotine to cotinine in rat and hamster liver homogenates was not affected by prior exposure to CO.

GKJC

89628x Toxic effects of calcium, titanium, and niobium borides in rats. Karpov, A. A.; Zhidova, N. A. (USSR). *Nov. Dannye Toksikol. Redk. Metal. Ikh Seedin.* 1967, 152-60 (Russ.). From Ref. Zh., *Farmakol., Khimioter. Sredstva, Toksikol.* 1968, Abstr. No. 7.54.779. LD₅₀ of CaB_2 (I), during i.p. administration to rats, was 1.015 mg. kg. Intoxication with I is expressed by depression and disorder in movement coordination. Chronic oral administration of I to rabbits (100 mg. kg./day for 4 months) caused leukocytosis, lymphocytosis, increase in content of γ -globulins and activity of aldolase, and decrease in albumin in blood. Prothrombin in blood at 2-3 mm. decreased and then increased to the end of expt. In lungs there was pneumonia of tissues and thickening of interalveolar septums. In intestines there was sclerosis of all vessels in submucosal layer, decreased glycogen in liver, and accumulation of acid mucopolysaccharides in the region of hepatic triad. Moderate intensification of lung pattern was observed by x-ray studies in animals 6-9 months after single intratracheal administration to rats of Ti boride (II), Nb boride (III), and esp. of I (50 mg./l.

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