(within the limits of our experiments) the longer the latent period before cortical functions disappear, as gauged by the loss of consciousness and the time of appearance of the first myoclonic jerks. (Column II of table.) The average time of appearance of the first myoclonic jerks in cats receiving 5 u/kg or less was 2.24 hours, 10 u/kg 3.28 hours, 15 u/kg 3.67 hours, and 20 u/kg 4.16 hours. We are unable to suggest the reason for this reaction.

Conclusions. 1. The larger the dose of insulin the greater the incidence of brain damage. However, irrespective of the insulin dose, brain damage did not occur in our animals unless they were kept in the "medullary stage" of hypoglycemia for at least 100 minutes. 2. In cats, not previously treated with insulin, the larger the dose the longer time it took for the appearance of neurologic signs of hypoglycemia.

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Elimination of Metrazol.

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Pharmacological and clinical evidence points to the fact that metrazol is very rapidly detoxicated in the body. The intravenous administration of a convulsive dose produces typical clonic convulsions from which the animal rapidly recovers.

There is a possibility that the metrazol might be excreted by the kidneys, and so our first step consisted in eliminating this possibility. Chemical analysis of the urine of cats receiving convulsive doses of metrazol showed none of the drug to be present in the urine. Bilaterally nephrectomized cats showed the same reaction to a convulsive dose of metrazol as they did before the performance of the nephrectomy. Hinsberg has shown that practically no metrazol is excreted by the intestinal route. It therefore seems logical that metrazol is not excreted but is detoxified.

The liver has generally been assumed to be the locale for drug detoxication. We therefore administered phosphorus to cats. Cats treated in this way died from the administration of a dose of metrazol which formerly produced only slight convulsions. The role of the liver was further tested by a comparison of the dose required to

produce convulsions when the drug was infused into the marginal ear vein or the portal vein of rabbits. In all cases a larger amount was required to produce convulsions when administered by the portal route. This evidence seems to establish the fact that metrazol is detoxified rather than excreted and that the liver plays an important rôle in the detoxication process.

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Coronary Occlusion. II. Efficacy of Papaverine Hydrochloride in Treatment of Experimental Cardiac Infarction.

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Papaverine has been suggested repeatedly as a drug of therapeutic value in the treatment of coronary artery disease.[1-4] This recommendation has been based on the thesis that the vaso-dilator action of papaverine would increase local blood flow. The anginal attack is thus relieved, or the ultimate size of the myocardial scar is minimized as a result of the improved nutrition.

Allen and MacLean[4] stated that the pain in peripheral arterial embolization is due not only to the presence of the embolus, but also to the attendant widespread reflex vascular spasm. The extensive ischemia that they observed was more marked than could be accounted for by the occlusion of the main vessel alone. In arterial embolization papaverine is said to have effects analogous to sympathectomy, *i.e.*—relaxation of the vaso-spasm. The use of papaverine has been suggested also in cerebral, pulmonary and mesenteric occlusion.[3,4] Mulinos, Shulman and Mufson[5] found that vaso-spasm of Reynaud's disease was relieved by large doses of papaverine hydrochloride intravenously, doses which did not lower the blood pressure but which resulted in a moderate acceleration of the heart rate.[6] Gruber and Robinson[7] noted that papaverine in small

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