

population of Puerto Rico. The mean value of 136 apparently normal persons from which hemolytic streptococci could not be cultured at the time the determination was made was 84.1 units. In 43 apparently normal subjects harboring hemolytic streptococci at the time the determination was made, the mean antistreptolysin value was 144.9 units. In 96 normal persons, not harboring demonstrable hemolytic streptococci at the time the determination was made, but having a definite past history of streptococcus infection, the mean value was 154.5 units. The mean value for the 3 groups was 127.8 units.

11404 P

Effects of Renin and of Angiotonin Upon Isolated Perfused Heart.

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The authors have examined the influence of renin, and of angiotonin, upon the isolated hearts of cats perfused with Ringer-Locke solution by the Langendorff method. Renin was prepared by alcohol precipitation of fresh pig's kidney cortex and fractional precipitation with ammonium sulphate, followed by prolonged dialysis. Angiotonin was prepared by the method of Page† and Helmer.¹ The pH of this solution was adjusted to 7.0 with dilute sodium hydroxide. It was injected, in doses shown to produce minimal to large pressor effects in intact animals, into the stream of the perfusate just above the heart.

Renin. The observations of Tigerstedt and Bergman² and of Hessel³ that renin is without influence upon the isolated heart, were entirely confirmed by 33 injections in 16 experiments.

Angiotonin. Coronary Flow. Twenty-four injections in 12

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† The authors are indebted to Dr. Page for his kindness in furnishing a quantity of angiotonin for comparison with that prepared by us.

¹ Page, I. H., and Helmer, O. M., *J. Exp. Med.*, 1940, **71**, 29.

² Tigerstedt, R., and Bergman, P. G., *Skand. Arch. Physiol.*, 1898, **8**, 223.

³ Hessel, G., *Klin. Wchnschr.*, 1938, **17**, 843.

experiments reduced the coronary output by from 27% to 86% (average 45%) in the presence of normal sinus rhythm. Four injections in one preparation were without result. The effect was maximal within 30 to 75 seconds after the beginning of the injection and lasted for one to 6 minutes. It showed no tendency to diminish with successive injections, though not more than 4 were administered to any one preparation. Four injections in 3 preparations, in which ventricular fibrillation was maintained by faradic stimulation of the ventricle, brought about a decrease in coronary flow by from 16% to 48% (average 28%). A late rise in coronary flow (averaging 16% for all injections) was frequently recorded. This late increase in flow was measurably reduced with successive injections.

Amplitude of beat. The amplitude of ventricular contraction was increased following every injection by from 18% to 300% (average 92%). This commenced later than the slowing of coronary flow, reached its maximum in 1 to 3 minutes, and persisted for 3 to 15 minutes. The effect of angiotonin upon amplitude of beat showed no consistent tendency to diminish with successive injections.

Heart Rate. Significant effects upon the heart rate were not recorded. In some experiments the rate of beat diminished slightly during the period of reduced coronary flow.

Summary. Upon the isolated hearts of cats perfused with Ringer-Locke solution renin produced no significant effect. Angiotonin on the other hand brought about decrease in coronary flow and increase in amplitude of beat, but no consistent effect upon heart rate.

11405 P

Pituitary Function in Parabiotic Triplet Rats.

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Rat ovaries that have been made to function under the stimulus of the male pituitary as in the experiments of Goodman¹ (ovarian grafts), Witschi and Levine² (parabiosis) and Pfeiffer³ (mascu-

¹ Goodman, L., *Anat. Rec.*, 1934, **59**, 223.

² Witschi, E., and Levine, W. T., *Proc. Soc. Exp. Biol. and Med.*, 1934, **32**, 101.

³ Pfeiffer, C. A., *Am. J. Anat.*, 1936, **58**, 195.