

## 11403

**Antistreptolysin Values in the General Population of Puerto Rico.**

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While studying the antistreptolysin content of the blood in cases of recurrent tropical lymphangitis<sup>1</sup> we were strongly impressed by the difference in values shown by these and by apparently normal cases. The question came up as to what should be considered as normal value for the general population under our local conditions.

Coburn and Pauli<sup>2</sup> determined the natural level of antistreptolysin in human blood, selecting for study a group of student nurses entering training at the Presbyterian Hospital, New York, on September 1932. These subjects were kept under clinical observation. Throat cultures were taken during periods of respiratory infection and antistreptolysin determinations were made at different intervals. The findings were classified in several groups: (a) those who contracted pharyngitis due to hemolytic streptococcus infection, (b) those who contracted other infections, the agent being unknown, (c) those who appeared to escape infection with hemolytic streptococci.

At the beginning of their study the median value for 30 individuals was 63 units. Only 5 subjects had a titer higher than 100 units. Ten subjects infected with hemolytic streptococci showed a subsequent rise in titer. None of those who escaped infection developed a significant rise in titer. The median titer of the group that escaped infection was 50 units 18 months later. These observations were interpreted by the authors to mean that the natural human antistreptolysin value is ordinarily about 50 units.

In order to determine the antistreptolysin values in our general population we proceeded to study a number of individuals, making the following classification: (1) apparently normal throats with no history of streptococcus infection and from which hemolytic streptococci could not be cultured at the time the determination was made, (2) apparently normal throats from which hemolytic streptococci were cultivated, and (3) apparently normal throats with a definite

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<sup>1</sup> Morales-Otero, P., and Pomales-Lebrón, A., *P. R. J. Pub. Health and Trop. Med.*, 1936, **12**, 43.

<sup>2</sup> Coburn, A. F., and Pauli, R. H., *J. Exp. Med.*, 1935, **62**, 129.

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history of previous streptococcus infection from which hemolytic streptococci could not be cultured.

*Material and Methods.* The material and methods used in this work were the same as those previously employed by us.<sup>1</sup> The streptolysin was standardized, using standard Todd's globulin kindly supplied to us by Dr. Coburn. Single determinations were made in each case. Throat cultures and blood specimens were taken at the same time.

*Results.* One hundred and thirty-six determinations were made on Group 1. The lowest value was 18 units and the highest 150, with an average of 84.1 units.

Forty-three determinations were made on Group 2.\* The lowest determination in this group was 48 units and the highest 350, with an average of 144.9 units.

Ninety-six determinations were made on Group 3. The lowest determination in this group was 37 units and the highest 333, with an average of 154.5 units.

*Summary.* Two hundred and seventy-five antistreptolysin determinations were made in apparently normal persons from the general

TABLE I.  
Antistreptolysin Values in the General Population of Puerto Rico.

Antistreptolysin titer	No. of individuals	Group 1	Group 2	Group 3
0-20	1	1	0	0
21-40	9	8	0	1
41-60	40	31	4	5
61-80	34	28	2	4
81-100	43	32	4	7
101-120	30	9	8	13
121-140	38	18	6	14
141-160	32	9	7	16
161-180	12	0	2	10
181-200	12	0	2	10
201-250	13	0	4	9
251-300	6	0	2	4
301-400	4	0	2	2
401-500	1	0	0	1
Mean antistreptolysin titer by groups		84.1 units	144.9 units	154.5 units
Mean titer for the 3 groups:		127.8 units.		

Group 1—Consists of persons of apparently normal throats with no history of streptococcus infection and from which hemolytic streptococci could not be cultured.

Group 2—Consists of persons of apparently normal throats from which hemolytic streptococci were cultivated.

Group 3—Consists of persons of apparently normal throats with a definite history of previous streptococcus infection from which hemolytic streptococci could not be cultured.

\* Strains belong to Groups A, C and G.

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.<sup>1</sup> 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 Bergman<sup>2</sup> and of Hessel<sup>3</sup> 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.

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

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

<sup>3</sup> Hessel, G., *Klin. Wchnschr.*, 1938, **17**, 843.