

An attempted correlation of toxin-titer and symptomatology is recorded in Table II.

From Table II it is seen that there are 13 strains in the left-upper quadrant in which high toxin-titer is associated with "severe" symptoms, and 13 strains in the right-lower quadrant in which low toxin-titer is associated with "mild" or "moderate" symptoms. These 2 quadrants together contain 26 strains or 63% of the population.

An attempted correlation of fibrinolysin-titer with symptomatology is recorded in Table III.

TABLE III.
Correlation Between Fibrinolysin-titer and Symptomatology.

Symptomatology	No. of strains yielding the following number of fibrinolytic units per cc.								Horizontal group-ratio	
	1024	512	256	128	64	32	16	8		<4
Severe	—	4	9	7	1	—	—	—	1	20:2
Moderate	—	2	—	—	1	2	2	—	1	
Mild	—	3	3	1	3	4	3	2	6	9:24
Vertical group-ratio										20:9 2:24 (20 + 24)/55 = 80%

Table III shows an 80% correlation between fibrinolysin-titer and symptomatology, as contrasted with the 63% correlation between toxin-titer and symptomatology.

Since practically all of the "severe" cases in this series had one or more complications, and since the great majority of the milder cases were uncomplicated, the 2 relative percentages (80%:63%) confirm the conclusion of Dack and his coworkers, that high fibrinolysin-titer plays a demonstrable rôle in determining complications in scarlet fever.

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Gonadotropic Substance in the Blood of Normal Humans.

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It has been shown that, by utilizing the synergistic action of certain pituitary extracts, otherwise unappreciable amounts of a "prolan-like" gonadotropic substance may easily be demonstrated in adult male urine concentrates¹ and in the urine of male and female

children.² We have extended such observations to the blood of normal humans of both sexes and at varying ages.

The method employed was similar to that used in our previous work on urines.² The ammoniated alcohol extract of sheep pituitary which we used, when injected into 25-day-old rats over a 3-day period, resulted in ovaries weighing about 24 mg. at the end of 96 hours. The uteri were not affected. The injection of 1 cc. of human blood serum daily, for 3 days, caused no change in the ovaries or uteri of similar rats at the end of the same time interval.

When the above injections were combined, surprisingly great changes were observed. The blood sera of 34 individuals, both male and female, and ranging in age from 2-66 years, invariably caused augmentation of ovarian weight. These weights reached as high as 140 mg., the average being about 80 mg. (200-600% augmentation). The ovaries were heavily luteinized. In addition, the vagina was open in most cases and the uterus was considerably enlarged, weighing between 65-80 mg. The uteri were not distended with fluid.

When synergized by a suitable pituitary extract, the injection of 1 cc. of human blood serum per day for 3 days has been shown to produce an augmentation in the weight of the 25-day-old rat's ovaries equivalent to that produced by 5-10 rat units of A-PL. The gonadotropic substance in the serum resembles pure "prolan B" in its luteinizing and synergistic properties. It differs from "prolan B" in that estrus effect was also observed. This latter action, of course, may be due to the presence of a second gonadotropic hormone in blood serum which is effective only when in combination with the synergist.

The marked and consistent gonadotropic effects obtained with the blood serums of normal humans, in the above manner, has led us to investigate the possibility that this reaction may be of value in the study and diagnosis of sex disturbances.

I wish to express my appreciation for the aid and direction of Dr. Samuel Soskin.

¹ Evans, H. M., Simpson, M. E., and Austin, P. R., *J. Exp. Med.*, 1933, **58**, 561.

² Freed, S. C., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **33**, 35.