TABLE II.

Date	Fasting blood amylase units	Blood amylase units 4 hr. after injection of 10 mg. acetyl-beta-methylcholine chloride	% increase
		DOG 16.	
11/28/34	18	75	317
11/29/34	21	85	310
12/1/34		Pancreatectomy	
12/4/34	34	35	3
12/8/34	15	18	20
12/17/34	13	17	22
12/18/34	11	13	18
12/28/34	37	43	16
1/2/35	15	40	166
1/9/35	13	30	131
1/22/35	15	31.5	110
2/19/35	17.5	37.5	115
3/8/35		Secondary Removal of Portion of Pancreas	
3/13/35	11	10	0
3/20/35	9	9	0
4/1/35	10	10	0
4/2/35	11	11	0
4/24/35	14	14	0
	Dog killed—no pancreatic tissue found.		

8284 C

An Attempt to Demonstrate Local Formation or Concentration of Virucidal Antibodies.*

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By the local injection of bacteria it is sometimes possible to show an antibody concentration at the site of inoculation greater than that in the serum. Cannon[1] found that the extracted juice of inoculated skin exceeded the antibody titre of the serum, as well as that of uninoculated skin. He suggests that local formation of antibody in the injected area is in part responsible for the effect. Seegal and Seegal[2] noted that there was a concentration of specific agglutinins in the fluid of the tissues surrounding the anterior chamber of the eye following local injection of typhoid vaccine. They, however,

* This research was supported by a grant from the W. J. Matheson Fund for the Study of Encephalitis.

1 Cannon, P. R., and Sullivan, F. L., PROC. SOC. EXP. BIOL. AND MED., 1932, **29**, 517.

2 Seegal, B. C., and Seegal, D., PROC. SOC. EXP. BIOL. AND MED., 1934, **31**, 437.

did not interpret their results as indicating a local formation of antibodies. We have attempted in this experiment to determine whether it is possible to produce a local formation or concentration of virucidal antibodies by repeated intradermal injection of herpes virus.

A series of rabbits were given intradermal inoculations of 1 cc. of Frank herpes virus at weekly intervals over a period of 4 to 6 weeks in the same skin area. After 10 to 40 days, the animals were exsanguinated and the inoculated area of the skin as well as some skin on the uninoculated side were excised and the tissue juice extracted following the method described by Seegal and Khorazo.[3] The fluid obtained was usually amber colored, which suggested that little blood was present. Neutralization tests were set up with varying dilutions of tissue juice and immune serum. In each case 0.4 cc. of the dilution was added to 0.4 cc. of the centrifuged supernatant virus suspension and incubated for 2 hours at 37°C. Rabbits were then injected in the cisterna magna with 0.4 cc. of the mixture. Table I is typical of numerous tests carried out.

TABLE I.
Tests for the Neutralizing Power of Immune Serum and Tissue Juice.

Dilutions	Tissue Juice Inoculated Side	Tissue Juice Uninoculated Side	Immune Serum	Normal Serum
Undiluted	Died	Died	Survived	Died
5:1	,,	,,	,,	,,
4:1	,,	,,	,,	,,
1:2	,,	,,	,,	,,
1:4	,,	,,	,,	,,
1:6	,,	,,	Died	,,

It is obvious from our results that the tissue juice obtained from the inoculated side as well as the uninoculated side never afforded protection against herpes virus, whereas the immune serum gave protection in a dilution of 1-4. Although a general immunity has been produced, there is no evidence from our work that the local intradermal injection of virus established "a locally superior mechanism for the disposal of the particular microorganism" (Gay).[4]

Since, by histological section, we have found no increase in the number of cells present in the inoculated skin, and since we have found no virucidal action of the tissue juice *per se,* it would seem

[3] Seegal, B. C., and Khorazo, D., PROC. SOC. EXP. BIOL. AND MED., 1934, **31**, 435.

[4] Gay, F. P., The Newer Knowledge of Bacteriology and Immunology, Jordan, E. O., and Falk, I. S., University of Chicago Press, 1928.

that the local immunity to subsequent skin infection is a function of the antibodies in the general circulation.

Contrary to the findings in the case of bactericidal substance, it has not been possible by the method employed to demonstrate any local formation or concentration of virucidal antibodies.

8285 P

Potential Variations of Extremities and of Precordium in Myocardial Disease.

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Wilson, Macleod, and Barker[1] described electrocardiographic leads which record the potential variations produced by the heart beat at a single point. These leads were obtained by pairing the point in question with a central terminal connected through separate, identical, non-inductive resistances with the right arm, left arm, and left leg respectively. Further details and slight modifications were published.[2] The potential variations of the extremities and of 6 precordial points in normal subjects were studied in Wilson's laboratory.[3] In the past few years Wilson and his associates have taken numerous curves in various types of heart disease by this method, but only a few of these have been published.[4, 5]

Since July 1934, this method has been used in the study of heart disease on the wards of the Third Medical (N. Y. U.) Division of Bellevue Hospital. As in the study of normal subjects referred to[3] the electrocardiograms taken in each case were the 3 standard leads, the potentials of the 3 extremities, and the potentials of 6 precordial points. All electrocardiograms were taken with a single stage, vacuum tube amplifier in circuit with the string galvanometer.

1 Wilson, F. N., Macleod, A. G., and Barker, P. S., PROC. SOC. EXP. BIOL. AND MED., 1932, **29**, 1011

2 Wilson, F. N., Johnston, F. D., Macleod, A. G., and Barker, P. S., *Am. Heart J.*, 1934, **9**, 447.

3 Kossmann, C. E., and Johnston, F. D., *Am. Heart J.*, 1935, **10**, 925.

4 Wilson, F. N., Johnston, F. D., Hill, I. G. W., Macleod, A. G., and Barker, P. S., *Am. Heart J.*, 1934, **9**, 459.

5 Wilson, F. N., Johnston, F. D., and Barker, P. S., *Am. Heart J.*, 1934, **9**, 472.