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Effect of Antipneumococcus Sera on Leucocytes in vitro and on the Agglutination of the Red Blood Cells.

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(Introduced by Wm. H. Park.)

From the Littauer Pneumonia Fund of New York University and the Medical Service of Harlem Hospital.

In the specific antibody pneumococcic horse sera (Felton[1] and Banzhaf[2]) heteroleucotoxins for certain human white cells, analogous in action to the isoleucotoxin of Doan,[3] were found, though never in titre strengths exceeding 1 in 18. Unfortunately, these observations invalidate this *in vitro* procedure as a probable cause of, or test upon which to base prediction of chill reactions in the serum treatment of pneumonia cases.

The incidental observation that a chill producing serum did agglutinate the red cells *in vitro,* whereas a non-chill producing serum did not produce such heteroagglutination of the human red cells, induced us to restudy this phase of the question. Our studies confirm those of Kolmer and Matsumoto (1920) in that the *in vitro* agglutinations have been found to bear no constant relationship to serum reactions. The small amounts of slowly injected serum apparently have no appreciable effect on the circulating red blood cells.

The distribution of blood groups in 100 cases of pneumonia was observed and showed the usual distribution.

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* With technical assistance from Miss Mabel Chatfield.

[1] Felton, L. B., *Boston Med. and Surg. J.*, 1924, cxc, 819.

[2] Banzhaf, E. J., *Johns Hopkins Hosp. Bull.*, 1911, xxii, 241.

[3] Doan, C. A., *J. Am. Med. Assn.*, 1926, lxxxvi, 1593.

[4] Kolmer, J. A., Matsumoto, M., *J. Immunol.*, 1920, v, 75.

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A New Agglutinable Factor Differentiating Individual Human Bloods.

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By absorbing a number of anti-human blood immune sera from rabbits with the blood corpuscles of certain individuals regardless of the group, fluids were obtained from a few sera which give a

TABLE I.

Bloods	Group I.				Group II.				Group III.				Group IV.			
	J. K.	S. A.	D. F.	L. S.	W. F.	W. D.	P. L.	A. R.	E. J.	A. J.	M. R.	S. M.	A. S.	H. S.	F. C.	H. G.
Serum No. 1020 diluted 1:20, absorbed with human blood, P. L. (Group II.)	0	++	+++	++	++	+++	0	++	0	+++	++	+	++	0	++	+++

Technic: 2 gtts. absorbed serum.
1 gtt. saline.
1 gtt. 2.5 per cent blood suspension.

TABLE II.

	Group I.		Group II.		Group III.		Group IV.		Total number	Total positive	Total negative
	+	0	+	0	+	0	+	0			
White	14	2	20	3	15	4	4	2	64	53	11
Colored	15	5	12	5	10	4	1	0	52	36	16

sharp differentiation of individual human bloods within the common blood groups.

Among 116 individuals selected from the four blood groups the distribution of the agglutinable factor (which may be designated as M) was as shown in Table II.

This reaction is distinguished by its intensity from some others known to show individual differences within the groups, such as the reactions with cold agglutinins.

This is a preliminary report.

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Further Observations on the Extraction of Precipitable Substances of Bacilli.

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From the Laboratories of The Rockefeller Institute for Medical Research.

In continuation of the work reported in a previous note[1] the following results were obtained:

The precipitable substances extracted by dilute alcohol from various bacilli are of different sorts. While the substance derived from *B. typhosus* loses its activity by digestion with trypsin, the extracts of *B. paratyphosus* B and *B. proteus* X19 resist tryptic digestion like that of *V. cholera*. The substance extracted from *B. paratyphosus* B and *B. proteus* yielded reducing sugar after hydrolysis. The N content of the substance obtained from *B. typhosus* approximates that of proteins.

After treating *B. typhosus* several times with hot 75 per cent alcohol, an extract was prepared by heating with saline solution. This substance differed serologically from the above mentioned substance of typhoid bacilli, in that it was precipitated strongly by immune sera prepared with typhoid bacilli extracted with dilute alcohol, and gave weak reactions with immune sera prepared with dilute alcohol extracts. It is likewise digested by trypsin, and therefore both products apparently differ from that described by Douglas and Fleming.[2]

After digesting with trypsin, the precipitable substance extracted with dilute alcohol from *B. paratyphosus* B still reacted with *B. paratyphosus* B immune sera, but not with immune sera prepared with