

muscular administration of a penicillin-albumin complex and a suspension of penicillin in peanut oil. When beeswax in 2, 3 and 5% concentration was added to the

penicillin-peanut oil mixture the presence of penicillin in the body was greatly prolonged, the degree of prolongation being greater as the concentration of beeswax was increased.

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Heterophile Antibody Following Administration of Blood Group-Specific Substances.

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(Introduced by David Rapport.)

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In the course of studies on the production of isoagglutinins in human volunteers an agglutinin for sheep cells was encountered in the sera of a number of persons receiving group-specific A substance (Witebsky) and group-specific AB substance (Witebsky).^{*} Twenty-three student volunteers of Tufts College Medical School participated. Sixteen belonging to blood groups B and O received 0.17 to 1.0 mg of A substance intravenously. Blood samples were taken before injection and again 2 weeks after. Sheep cell agglutinins were studied by the method of Paul and Bunnell.¹ An increase in titre of the second serum of 3 tubes or more above the titre of the first was observed in 7 volunteers, 9 remained unchanged or showed less definite increases. Seven volunteers belonging to blood group A received 0.05 mg of AB substance intravenously. Of these only one showed an increase of just 3 tubes.

Since A and AB substances are used to neutralize the isoagglutinins of O blood used for transfusion, the question arose of whether individuals transfused with such blood also developed sheep cell agglutinins. Blood sera

were obtained before and one week after transfusion of 15 individuals and compared by the Stuart method.² Unlike the student volunteers, the members of this group received A and AB substances combined. Eight belonged to blood groups B and O; of these 5 showed an increase in titre of 3 tubes or more. Seven belonged to blood group A and of these one showed a definite increase.

Volunteers and transfusion recipients whose sheep-cell agglutinin titres were low before injection showed more spectacular rises than those with initially elevated titres. Of 27 individuals, whose original titres were 1/40 or less, 14 showed an increase of 3 tubes or more. Of 11 with original titres above 1/40, only one showed an increase.

The antibody found in these sera differs from the antisheep antibody found in the sera of individuals with infectious mononucleosis in that it can be absorbed with A substance, while the latter cannot. Further attempts to identify this heterophile antibody by absorption with guinea pig kidney and with boiled beef cells have so far yielded equivocal results.

We are indebted to Dr. Ernst Witebsky for valuable advice, and to Miss Lillian Rodofsky for extensive technical assistance.

^{*} The group-specific AB substance was supplied by Eli Lilly & Company; the purified A substance was supplied by Sharp & Dohme.

¹ Bray, W. E., *Synopsis of Clinical Laboratory Methods*, pp. 279-281.

² *Diagnostic Procedures and Reagents*, 2nd Edition, 1945, pp. 449-456.