8081 P

A Test for Diagnosis of Thrombo-Angiitis Obliterans.*

CHARLES GOODMAN AND MAURICE BRODIE.

From the Department of Bacteriology, New York University Medical School.

In a previous report, one of us (Goodman) had outlined the evidence for the belief based upon epidemiological studies of others that thrombo-angiitis obliterans was a late manifestation of typhus fever. Since that time, Zinsser has pointed out in studies of Brill's disease that typhus infection may remain latent in the body for an indefinite length of time.

In a previous communication we have pointed out that a formalized Rickettsia suspension seemed to give a positive skin reaction in individuals with a previous typhus infection. Therefore we attempted this skin test in a number of cases of thrombo-angiitis obliterans in order to determine whether or not they had had a previous infection of typhus fever.

Accordingly, 14 males clinically diagnosed as thrombo-angiitis obliterans, some with and some without gangrene, were given intracutaneously 0.1 to 0.2 cc. of formalized Rickettsia suspension as used previously. At the same time for control, an injection of a similar amount of Proteus X19 filtrate was also likewise injected at a different site. A group of 12 controls included 2 with arterio-

TABLE I.

Type of Case	Age	Reaction to Rickettsia Suspension	Reaction to Proteus X19 Filtrate	Interval between Infection and Test	Size of Reaction cm.
T.A.O.	47	+	—	8 yr.	1
T.A.O.	30	++	—		4
T.A.O.	21	+			1½
T.A.O.	52	++			4
T.A.O.	44	++	—		4½
T.A.O. (gangrene)	47	+	Pro. Urt.		1½
T.A.O.	52	++	—		2
T.A.O.	33	+			1
T.A.O.	35	+	—		1
T.A.O.	57	+	—		1
T.A.O.	36	+	—		¾
T.A.O.	48	+	—		1½
T.A.O.	47	+	—		1
T.A.O.	53	+	—	6 mo.	1

T.A.O.: Thrombo-angiitis obliterans.
Cases furnished through courtesy of Dr. S. Samuels, Stuyvesant Clinic.

* Aided by grants from Messrs. N. Jonas and J. H. Post and Dr. F. L. Babbott, Jr.

sclerosis. The site of the injections was examined as in the previous study after 24 to 48 hours following the injection. The results are enumerated in Table I, where a negative reaction indicates no erythema or induration, and a + reaction a wheal or raised, reddened, indurated area ½ cm. to 1 cm. in diameter, and a ++ reaction from 1 cm. to 3 cm.

The cases diagnosed clinically as thrombo-angiitis obliterans show a positive skin test with Rickettsia organisms which suggests the possibility of previous typhus fever infection. Moreover, a number of the cases diagnosed as thrombo-angiitis obliterans came from typhus infected areas.

Of course the series is small and likewise further controls are required by skin-testing other vascular conditions as well as skin tests with further control suspension, such as tunica vaginalis and guinea pig testicle. Such experiments are now under way.

We have submitted evidence based upon a skin test with formalized Rickettsia suspension for the possibility that thrombo-angiitis obliterans is related to a previous typhus fever infection.

8082 P

A Skin Test Indicating a Previous Typhus Infection.

CHARLES GOODMAN AND MAURICE BRODIE.

From the Department of Bacteriology, New York University Medical School.

The recent studies of Zinsser[1] concerning the possible relationship of Brill's disease to a previous typhus fever infection suggests the importance of determining by a simple test a previous infection with typhus fever.

Inasmuch as many such patients are of foreign birth, and in whom infection had probably occurred some years previous, the clinical history is not always readily obtained. Likewise, a Weil-Felix reaction usually becomes negative with, or soon after convalescence and therefore cannot be used for this purpose.

The present work described the use of formalized Rickettsia suspension for this purpose. Fleck and Kurkowski[2] found that filtrates of Proteus X 19 were ineffective. Our tests were carried out with

[1] Zinsser, H., *Am. J. Hyg.*, 1934, **20**, 513.

[2] Fleck and Kurkowski, *Z. fur Immunitatsforsch.*, 1931, **72**, 282.