14-WTF-ABM
Prior to 1920-JPA; State Inst. Feebleminded

Journal of Psycho-Asthenics, vol. XVIII, no. 4, June 1914

WASSERMANN TESTS: SIX HUNDRED CASES O
BLE-MINDED AT THE MINNESOTA SCHOOL
FEEBLE-MINDED AND COLONY FOR
EPILEPTICS

BY A. B. MOULTON, M. D.

The work undertaken at this institution in testing
dren for evidence of syphilis by means of the Wasserma
tion, an incomplete preliminary report of which affords
for this paper, has been undertaken as a part of the wor
ed by this association,* leading toward a more accurate a
prehensive knowledge of the factors which enter into th
tion of feeble-mindedness. Our endeavor is to correlate
ological findings with the conditions determined by
workers, and in the tables given we have indicated brie
far as the cases have been investigated, their findings
which tend to throw helpful side lights on the results
will be given in connection with the tables. This repor
the results obtained on the examination of 599 boys and
the girl being included as her serum was used as one of
tive controls.

The method employed in our work has been the
modification of the original Wassermann test. The ac
soluble fraction of tissue lipoids being used as antigen
human hemolytic system, inactivated serum to be tested,
an amboceptor, the serum of rabbits immunized against
erythrosytes. The bulk of the antigen used was secured
Rockefeller Institution through the kindness of Dr.
That which was subsequently used was prepared in our
oratory following the technique given in the second e
Dr. Noguchi's book on "Serum Diagnosis." This anti
tested against that received from the Rockefeller lab
using the same sera. The blood to be tested was
drawn from the subject on the day examined, though oc

ecured the previous evening. At first we depended the natural separation of the serum, but were bother- tle by spontaneous hemolysis, which required repeat- rk. Later we allowed the blood to coagulate in the it was centrifuged for from three to five minutes, rum perfectly clear and untinted. With few excep- we secured very small quantities of blood, the ser- ctivated at 56 degrees C. for twenty minutes. The complement was never more than 18 hours old and he tests was used within six hours and when not be- on ice. Whenever specimens were found to give tions, they were tested a second time with the next d. When examined the second time we used an alco- of syphilitic foetal liver as an antigen.

ults of these tests show that of the 600 specimens ex- or 87 1-6 per cent. showed complete hemolysis and e considered as negative, while 77 or 12 5-6 per cent. bition of hemolysis, ranging from complete arrest ace of inhibition, as is shown in the following tables. he degree of hemolytic inhibition, we separated them oups. In the first group, as indicated in table I, we y those where inhibition was complete. In group in table II, we included those cases where inhibition complete, with not over 15 per cent. of hemolysis, ponds very closely to Noguchi's weak positive. The comprises those cases in which less than 30 per cent. rocytes was dissolved, while in the fourth group, we e specimens that showed over 30 per cent. of hemol- dying our results, we have found one instance where 's sera show inhibition, one a clear cut positive with is, while the other taken on the same day, and with gents in the same set of tests showed only partial his in view of the fact that we have no history of ic treatment.

g to table I of the sixteen cases showing complete hemolysis, two show clear cut physical signs of utchinson teeth, iritis and keratitis. In one instance s and a positive history is present. In a fourth in-

stance there were four sibs that died within a very
birth and there are also four living sibs that are fe
Three others came to us from the Minnesota State P
To summarize, in four cases the family history show
marked probability of specific infection, and in thre
complete lack of information, the children coming fro
School, where only orphans or children living unde
bad conditions are taken in, at least raises a suspicio
study of these families will probably shed added l
question. In table II, comprising 17 cases, there are
one is from a thoroughly degenerated stock, with insa
more, a total of six. While the direct clinical evide
sonal or parental luetic infection is not so direct, the
ditions that give warrant for further study. The third
tables show the same questionable conditions but the
been studied sufficiently to know the full significance
ings.

In the study of complement fixation in these fe
conditions, certain questions arise relative to interpret
While the meaning of complete hemolysis as well a
inhibition is quite clear and we may justly lay much w
them, what value are we to place upon the intermedi
of hemolysis? It seems to be the general opinion whe
not over 10 or 15 per cent. hemolysis, we can in the p
suspicious clinical conditions, consider the person luet
about the others, in our particular problem of searchi
determining the relative importance of various causat
and where direct treatment is not the question, whe
draw the line saying that a given complement fixation
one hand specific and on the other means nothing?

TABLE I

Reaction Positive

Complete Inhibition of Hemolysis.

Mental Age	Stigmata	Notes on family history
6		
4		Sister F. M.
11 3-5	Hutchinson teeth	Father F. M., luetic
	Iritis, keratitis	Mother ill repute
8	Enunciation poor	Father luetic
		Father, brother and sister F. M.
6 3-5		A foundling
1-2	Paralytic	Two sisters, 3 brothers F. M.
	Tubercular	Two sisters, 2 brothers died few days old
8		*M. S. P. S.
8		Mother F. M.
6	Spastic paraplegia	M. S. P. S.
		Brother F. M.
6		
8 4-5		M. S. P. S.
6	Paralysis Agitans	Father epileptic
6	Paraplegic	
8	Hutchinson teeth	Brother at School for Blind
	Thickened tibia	
5		
5-1-5		Father, mother, sister and brother F. M.

P. S.—Minnesota State Public School.
strongly positive used for positive control.
r gives V. W. Positive

TABLE II

Reaction Weak Positive

Inhibition of Hemolysis, 85 per cent. to 100 per cent.

Mental Age	Stigmata	Notes on family history
6	Facial asymmetry	M. S. P. S.
3	Paresis lower limbs	Sister F. M.
8		
6	Illegitimate	Mother F. M.
4		
5		
6	Slight microcephalia	
2		Mother insane
5		
9	Partial paraplegia	M. S. P. S.
6		
7		
5		Mother, father, brother and sister F. M.
9		M. S. P. S.
6	Tubercular	
6	Epilepsy	
6		Father insane

TABLE III

Reaction Very Weak Positive

Inhibition of Hemolysis 70 per cent. to 80 per cent.

Case No.	Chrono. Age	Mental Age	Stigmata	Notes on family history
1	15	6	Deaf and dumb	
2	23	6	Dwarfed	
3	7½	4	Illegitimate Hydrocephalic	Mother F. M.
4	21	6		Father thief Mother F. M.
5	25	3		Brother F. M.
6	20	3		Father heavy drinker
7	25	8		
8	26	6		Brother F. M.
*9	13	10-3-5	Increased intra-ocular tension	Brother and sister F. M.
10	6	2		Mother syphilitic

Note *—Brother four years younger shows clear positive.

TABLE IV

Reaction Faint or Doubtful

Inhibition of Hemolysis 50 per cent. or less

Case No.	Chrono. Age	Mental Age	Stigmata	Notes on family history
1	24	10		
2	12	5		
3	27	7		
4	19½	8		
5	16	7 2-5		Father F. M. Two sisters immoral
6	33½	7		
7	16½	10		Home conditions bad
8	13½	8		
9	22	11	Epileptic	
10	19	7		
11	13	4 3-5		
12	9	3 3-5	Mongolian	
13	15	3	Paresis lower limbs	Brother F. M. and Ep.
14	14	10		M. S. P. S.
15	32	3		Three brothers F. M.
16	56 2-3	2		
17	28	7		M. S. P. S.
18	14	4		Mother and brother dull
19	30	6 ?	Deaf and dumb	
20	9	6 2-5		M. S. P. S.
21	25	2		Brother F. M.
*22	18	3	Deaf	
23	14	7		
24	14	9		Mother dull
25	10	7		
26	11 2-3	5		
27	35	7		
28	17	6		
20	13	5		
30	13	8?		Father F. M.
31	14	3 3-5		
32		10		Mother blind
33	25	2		
34	11	6		

* Cases 22 to 34 inclusive show very slight hemolysis.

ITIONAL REPORT ON WASSERMANN TESTS

BY Wm. J. G. DAWSON, M. D., *Eldridge, California.*

the last meeting of the Association, I presented a paper "A Preliminary Report on Wassermann Tests." I hat up to and including May 5, 1912, we had examined ndred and eighty inmates of the Sonoma State Home at , California. Positive tests were obtained in thirty-five ual to four per cent.; indefinite reactions in seventeen o per cent.

Grace Linforth-Boalt, our expert in the Wassermann ill continues the research work and from July 9, 1911, ary 17, 1913, one thousand one hundred and thirteen ll have been made. Positive tests were obtained in 30 d 23 females, made a total of 53, or about 5 per cent. cases include the 35 before reported.

prevailing ages of males were nine to thirty-eight years, ale (feeble-minded) giving positive reaction, forty-ears. The prevailing ages of females were twelve to ix years, oldest female (an epileptic) giving positive re-ixty-five years.

ionality: American, forty-eight; Mexican, one; English, rtuguese, one; Italian, one; French, one.

GRADE	MALE	FEMALE	TOTAL
on	16	10	26
ecile	10	8	18
-imbecile	2	5	7
ngolian	2	0	2
	30	23	53

his number, on the male side, one was a mo1on mute, ngolian mute; two were epileptics; five were paralytics was a case of athetosis. Of this number, on the female