

8 October 1945

2 year
immune
Test

List of former sandfly fever patients desired for next test, in order of preference:

<u>Order</u>	<u>Name</u>	<u>Date first inoculated</u>
1	[REDACTED]	November 1, 1943
2	[REDACTED]	November 3, 1943
3	[REDACTED] [REDACTED]	November 9, 1943
4	[REDACTED] [REDACTED]	November 15, 1943
5	[REDACTED]	November 15, 1943
6	[REDACTED]	November 24, 1943
7	[REDACTED]	November 30, 1943
8	[REDACTED]	December 8, 1943
9	[REDACTED]	December 14, 1943

IMMUNITY APPROXIMATELY TWO YEARS AFTER SINGLE ATTACK OF SANDFLY FEVER

SUBJECTS WITH PREVIOUS ATTACK:

	FIRST ATTACK INOCULATION	
[REDACTED]	Nov. 3, 1943	MIDDLE EAST VIRUS
[REDACTED]	Nov. 15, 1943	" " "
[REDACTED]	Nov. 15, 1943	" " "
[REDACTED]	Nov. 30, 1943	SICILIAN VIRUS

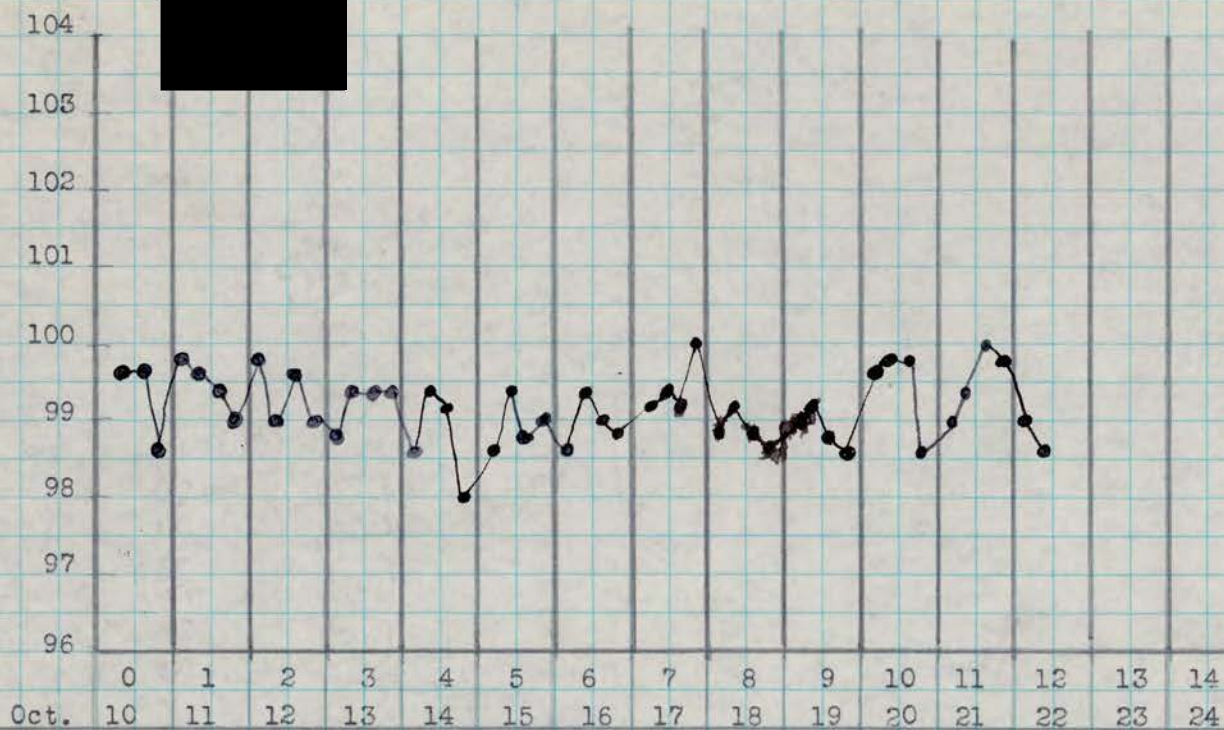
NORMAL CONTROLS

- [REDACTED] - white man - age 35
- [REDACTED] - white woman - age 42

VIRUS USED FOR CHALLENGE

SICILIAN STRAIN - 2ND PASSAGE POOL prepared and frozen in CO₂ - Nov. 30, 1943

DOSE - 2cc of serum intracutaneously
0.25cc in 8 sites on forearm

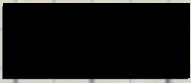


Inoculated Site
Generalized Rash

0.3x2
x 8
Same
v. SR.
Same
Same
Same
s
s
s
s
s
0
0
0
0
0
0
0
0
0
0

TOTAL WBC	9,200	5,600	5,900	9,350	6,200
Neutroph. - Segment	51	43	30	26	18
Staff	13	16	17	25	24
Juvenile Myeloc.					
Lymphocytes	27	39	49	47	55
Monocytes	7	2	3		3
Eosinophiles	2		3	1	
Basophiles			1	1	

104
103
102
101
100
99
98
97
96



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
Oct. 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Inoculated Site
Generalized Rash

Eryth. Eryth. Same faint
2 x 1.5 cm 2 x 1.5 cm et. les 1 x 1 cm
at base of neck 1 x 1 cm 8 sites
0 0 0 0 0 0 0 0 0 0 0 0 0

TOTAL WBC

5,400 6,700 5,850 9,950 7,400

Neutroph. - Segment
Staff
Juvenile
Myeloc.

42 31 55 48 36
5 7 7 19 10

Lymphocytes

38 53 34 28 43

Monocytes

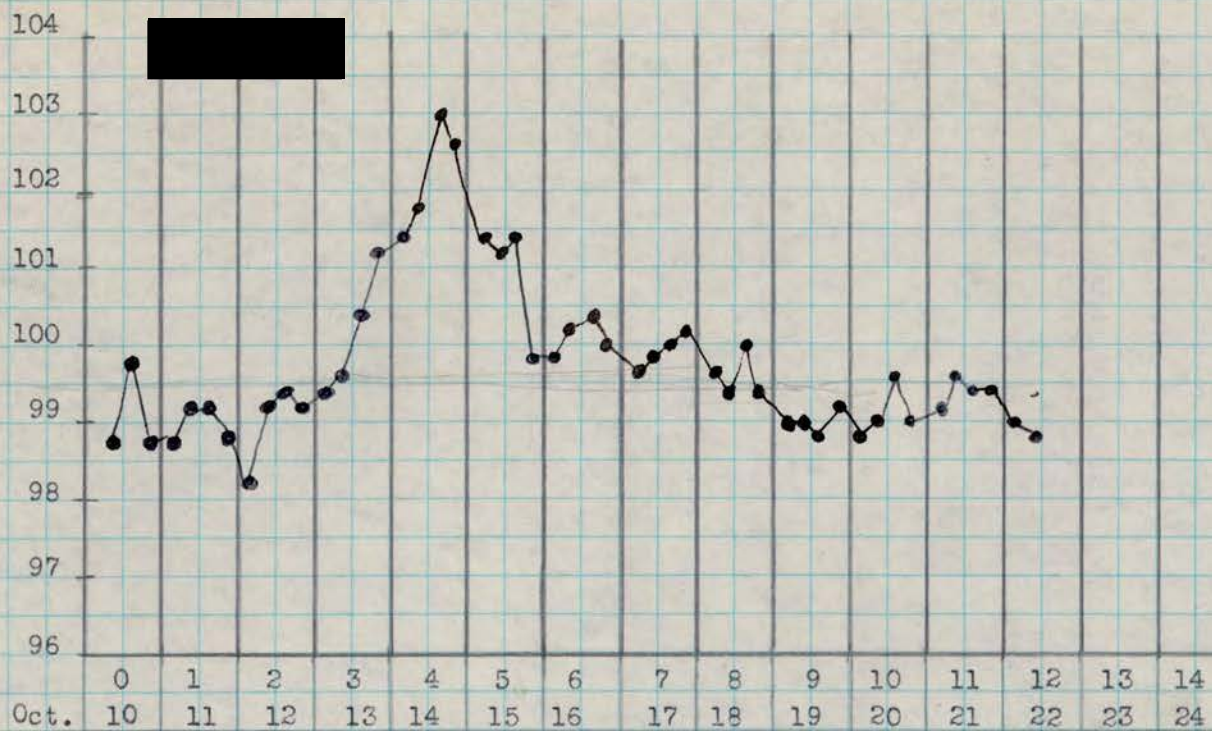
5 5 1 3 6

Eosinophiles

7 4 3 2 5

Basophiles

3



Inoculated Site	0x20x4 x8	0.4x0.4 x8	Same	0	0	0	0	0	0	0	0	0		
Generalized Rash	0	0	0	0	0	0	0	0	0	0	0	0		
TOTAL WBC	8,500				3,550	2,900		5,050				8,300		
Neutroph. - Segment	51				16	10		14				45		
Staff	4				21	34		25				11		
Juvenile														
Myeloc.														
Lymphocytes	43				57	51		58				40		
Monocytes	1				4	5		2				2		
Eosinophiles	1											2		
Basophiles					2			1						

Italian
Virus

GRADUOL MEMBRANE FILTRATION

400 m μ filtrate -	10cc	-	Foyt	-	6:30 P.M.	-	+		
207 m μ	"	-	11cc	-	FAUCETT	-	6:40 P.M.	-	+
101 m μ	"	-	16cc	-	SELLERS	-	6:45 P.M.	-	0
75 m μ	"	-	7.5cc	-	SHAW	-	6:55 P.M.	-	0

Virus used:

Hastings 12/21/44 bleeding	11.5 cc.
Hastings 12/22/44 bleeding	<u>13.0 cc.</u>
Total	24.5 cc.

To the 24.5 cc. serum was added 73.5 cc. of physiological saline. The diluted serum was then centrifuged on the angle centrifuge at about 4,000 r.p.m. for 30 minutes. The clear supernatant liquid was used for the initial filtration through the 770 μ membrane.

770 μ membrane:

10 cc. broth -- start 10:16 A.M. Steady stream, finish 10 seconds.
1st 20 cc. -- start 10:33 steady stream, finish 30 seconds.
2nd 20 cc. -- start 10:36 dropwise fast; then more slowly; stopped 10:39, altho drops coming thru slowly.
3rd 20 cc. -- start 10:41 dropwise slowly (all filtrations up to now 10 lbs., raised to 15 lbs. Drops came through faster). Stopped about 10:46 because filtration was too slow.

600 μ membrane:

10 cc. broth -- 10 lb. pressure -- start 10:54, came out at sides; stopped. Re-adjusted.
1st 20 cc. -- start 11:05 dropwise rapidly, finish 30 seconds.
2nd 20 cc. -- start 11:07 rapid dropwise; finish 11:08.
3rd 15 cc. -- start 11:12 dropwise slower than before; stopped 11:17 altho dropwise filtration continues.

400 μ membrane:

10 cc. broth -- start 10:26, steady stream, finish 15 seconds.
770-600 μ filtrate used
1st 20 cc. -- ^{start} 11:20, dropwise very fast; finished 30 seconds.
2nd 20 cc. -- start 11:22, dropwise fast; finished 40 seconds.
3rd 20 cc. -- start 11:25 dropwise fast; finished 30 seconds.
4th 17.5 cc. -- start 11:27 dropwise fast; finished 25 seconds.

207 μ membrane:

600 μ broth -- 10 cc. broth -- start 11:34 dropwise fast, finish 40 seconds.
400 μ filtrate used
1st 20 cc. -- start 11:50 dropwise fast, somewhat slower after 10 cc., finish 11:55, pressure increased after finished to 15 lb., yield 19.5 cc.
2nd 20 cc. -- 15 lb. pressure -- start 12:04, dropwise regular, not too fast, stopped 12:15, yield 19.5 cc.
3rd 16 cc. -- 15 lb. pressure, start 12:20 dropwise slowly, 12:32 stopped, going through too slowly, only about 4 cc. filtered.
 Total filtered: 43 cc.

(continued)

101 m μ membranes:

Membrane A 400 m μ broth -- 10 cc. -- start 11:34 dropwise fairly fast, finish 11:37.

400 m μ filtrate used

1st 20 cc. -- start 11:50 dropwise fairly fast. After first 2 cc. much slower, pressure increased to 15 lbs. Only 5-6 cc. at 2:00 P.M. 4:25 P.M. stopped.

Total filtered: 8 cc.

Membrane B 770 m μ broth -- 9 cc. -- start 2:03 dropwise fast, finish 2:06.

207 m μ filtrate used

10 cc. -- start 2:12 dropwise rather fast; 2:17 about 5 cc; 3:15 seems as if nearly all has gone thru, but occasional drop still forms. 4:25 P.M. stopped.

Total filtered: 9.7 cc.

75 m μ membranes:

Membrane A 207 m μ broth -- 8 cc. -- start 1:55 dropwise within 1 minute, relatively fast, finish 2:00 P.M.

207 m μ filtrate used

10 cc. -- start 2:11 dropwise slowly. 4:30 P.M. stopped.

Total filtered: 4.3 cc.

Membrane B 101 broth -- 7 cc. -- start 1:55 dropwise within 1 minute, relatively fast, finish 2:00 P.M.

207 m μ filtrate used

10 cc. -- start 2:11 dropwise very slowly. 4:30 P.M. stopped.

Total filtered: 4.5 cc.

Human Inoculations

Filtrates transported in ice in thermos bottle.

400 m μ filtrate	--	10 cc.	--	Foyt	--	6:30 P.M.	+
207 m μ filtrate	--	11 cc.	--	Faucett	--	6:40 P.M.	+
101 m μ filtrate (Pool of A + B)	--	16 cc.	--	Sellers	--	6:45 P.M.	○
75 m μ filtrate (Pool of A + B)	--	7.5 cc.	--	Shaw	--	6:55 P.M.	○

Virus used:

Hastings 12/21/44 bleeding	11.5 cc.
Hastings 12/22/44 bleeding	<u>13.0 cc.</u>
Total	24.5 cc.

To the 24.5 cc. serum was added 73.5 cc. of physiological saline. The diluted serum was then centrifuged on the angle centrifuge at about 4,000 r.p.m. for 30 minutes. The clear supernatant liquid was used for the initial filtration through the 770 μ membrane.

770, 600, 400

207 μ membrane:

600 μ broth -- 10 cc. broth -- start 11:34 dropwise fast, finish 40 seconds.

400 μ filtrate used:

1st 20 cc. -- start 11:50 dropwise fast, somewhat slower after 10 cc., finish 11:55, pressure increased after finished to 15 lb., yield 19.5 cc.

2nd 20 cc. -- 15 lb. pressure -- start 12:04, dropwise regular, not too fast, stopped 12:15, yield 19.5 cc.

3rd 16 cc. -- 15 lb. pressure, start 12:20 dropwise slowly, 12:32 stopped, going through too slowly, only about 4 cc. filtered.

Total filtered: 43 cc.

101 μ membrane:

Membrane A 400 μ broth -- 10 cc. -- start 11:34 dropwise fairly fast, finish 11:37.

400 μ filtrate used:

1st 20 cc. -- start 11:50 dropwise fairly fast. After first 2 cc. much slower, pressure increased to 15 lbs. Only 5-6 cc. at 2:00 P.M. 4:25 P.M. stopped.

Total filtered: 8 cc.

Membrane B 770 μ broth -- 9 cc. -- start 2:03 dropwise fast, finish 2:06.

207 μ filtrate used:

10 cc. -- start 2:12 dropwise rather fast; 2:17 about 5 cc.; 3:15 seems as if nearly all has gone thru, but occasional drop still forms. 4:25 P.M. stopped.

Total filtered: 9.7 cc.

75 μ membrane:

Membrane A 207 μ broth -- 8 cc. -- start 1:55 dropwise within 1 minute, relatively fast, finish 2:00 P.M.

207 μ filtrate used:

10 cc. -- start 2:11 dropwise slowly. 4:30 P.M. stopped.

Total filtered 4.3 cc

Membrane B 101 broth -- 7 cc. -- start 1:55 dropwise within 1 minute, relatively fast, finish 2:00 P.M.

207 μ filtrate used:

10 cc. -- start 2:11 dropwise very slowly. 4:30 P.M. stopped.

Total filtered: 4.5 cc.

770 m μ membrane:

10 cc. broth -- start 10:16 AM. Steady stream, finish 10 seconds.
1st 20 cc. -- start 10:33 steady stream, finish 30 seconds.
2nd 20 cc. -- start 10:36 dropwise fast; then more slowly; stopped 10:39, altho drops coming thru slowly.
3rd 20 cc. -- start 10:41 dropwise slowly (all filtrations up to now 10 lbs. raised to 15 lbs. Drops came through faster). Stopped about 10:46 because filtration was too slow.

400 m μ membrane:

10 cc. broth, -- start 10:26, steady stream, finish 15 seconds.
770-600^{m μ} filtrate~~d~~ used:

1st 20 cc. -- start 11:20, ~~dropwise fast~~ dropwise very fast; finished 30 seconds.
2nd 20 cc. -- start 11:22 dropwise fast; finished 40 seconds.
3rd 20 cc. -- start 11:25 dropwise fast; finished 30 seconds.
4th 17.5 cc. -- start 11:27 dropwise fast; finished 25 seconds.

600 m μ membrane:

10 cc. broth -- ~~back to~~ 10 lb. pressure -- start 10:54, came out at sides; stopped. *Readjusted*
1st 20 cc. -- start 11:05 dropwise rapidly, finish 30 seconds.
2nd 20 cc. -- start 11:07 rapid dropwise; finish 11:08
3rd 15 cc. -- start 11:12 dropwise slower than before; stopped 11:17 altho dropwise filtration continues.

Human Inoculations

Filtrates transported in ice in Thermos bottle

400 m μ filtrate	—	10 cc	—	Foyt	—	6:30 P.M.	
207 m μ	"	—	11 cc	—	Faucett	—	6:40 "
101 m μ (Pool of A + B)	"	—	16 cc	—	Sellers	—	6:45 "
75 m μ (Pool of A + B)	"	—	7.5 cc	—	Shaw	—	6:55 "

"ITALIAN" VIRUS

[REDACTED]

— "KOSNOFF" SERUM FROM ITALY

[REDACTED]

— HASTINGS SERUM

[REDACTED]

} SICILIAN
SANDFLY
CONVALESCENTS

"

"

[REDACTED]

} DENGUE
CONVALESCENTS

"

"

TEST FOR VIRUS IN FROZEN SERUM SPECIMEN

DEC 18 1944

SENT FROM ITALY

SERUM SPECIMEN - [REDACTED] - ASN 31121746

ONSET OF suspected Sandfly fever 12 July, '44,
bled 13 July within 24 hours of onset.

Serum kept in dry ice since then.

Culture - 0.2cc on BAP 1-000

" on " 2-000

0.5cc in broth-000

Approximately 10cc of ~~the~~ clear, straw-colored serum
was centrifuged on the horizontal at \approx 2,000 r.p.m.
for 15 minutes. Part of sn. liquid inoculated into
a volunteer and rest frozen (Joc III - upper)

VOLUNTEER - [REDACTED] - 22,943 - AGE 33 (MULATTO
LIGHT SKIN)

1cc intracutaneously - 0.25cc in 4 sites on
right forearm

4.4cc intravenously

INOCULATED 3 P.M.

12/19 12/20 12/21

0 0? 0

Faint
Reactions.

PASSAGE OF "ITALIAN" VIRUS AND

Dec. 29 '44

TEST FOR CROSS-IMMUNITY WITH

SICILIAN STRAIN OF PHLEBOTOMUS FEVER

"ITALIAN" VIRUS - FIRST PASSAGE HASTINGS SERUM of 12/21 + 12/22

VOLUNTEERS - WICKER - "NORMAL"

[REDACTED] - CONVALESCENT FROM
PHLEBOTOMUS FEVER
(SICILIAN STRAIN)
INOC. OCT. 5, 1944
FEVER OCT. 8, 1944

COMMENT - 1cc of 12/21 HASTINGS SERUM ON RIGHT FOREARM
1cc of 12/22 " " " " " LEFT " "
0.25cc in 2 sites intracutaneously at 2 P.M.

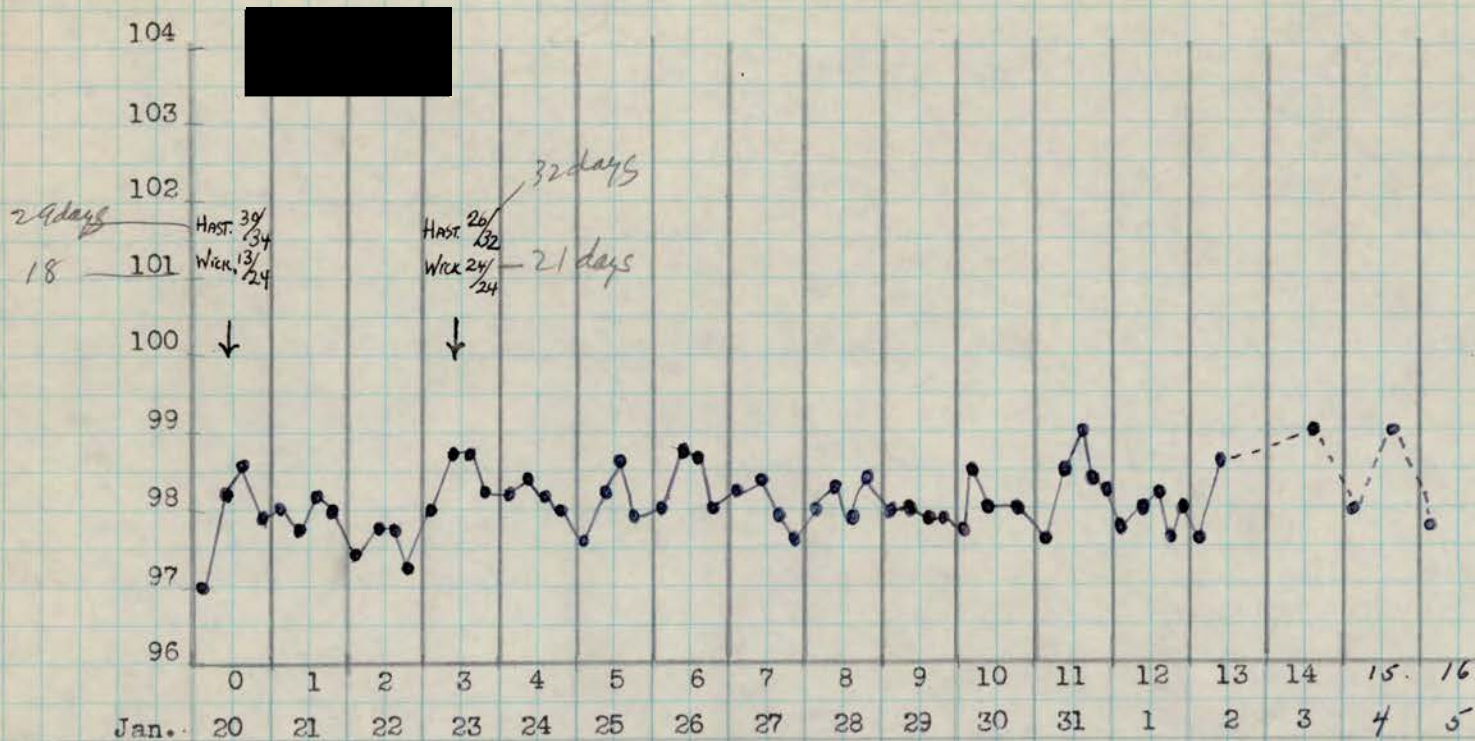
The "12/21" serum was obtained at onset of symptoms but about 12 hours before distinct rise of temperature. The 12/22 serum was obtained about 24 hours later or \approx 12 hours after rise of temperature. Both were used in order to be certain of having serum with maximum virus content.

12/30 - No reaction at inoculated sites

JAN. 1 - [REDACTED] (colored but skin fairly light) - shows discoloration or erythema at all inoculated sites - more marked on left forearm (about 1x1cm).

[REDACTED] - (very dark) - no reaction at inoculated sites evident

CAPACITY OF Aedes Aegypti TO TRANSMIT ITALIAN VIRUS



Inoculated Site
Generalized Rash

TOTAL WBC 8500 9650 7200 10,000 700089.00

Neutroph. - Segment 53 36 58 55 36

Staff 3 1 2 1

Juvenile Myeloc. 41 55 31 30 53

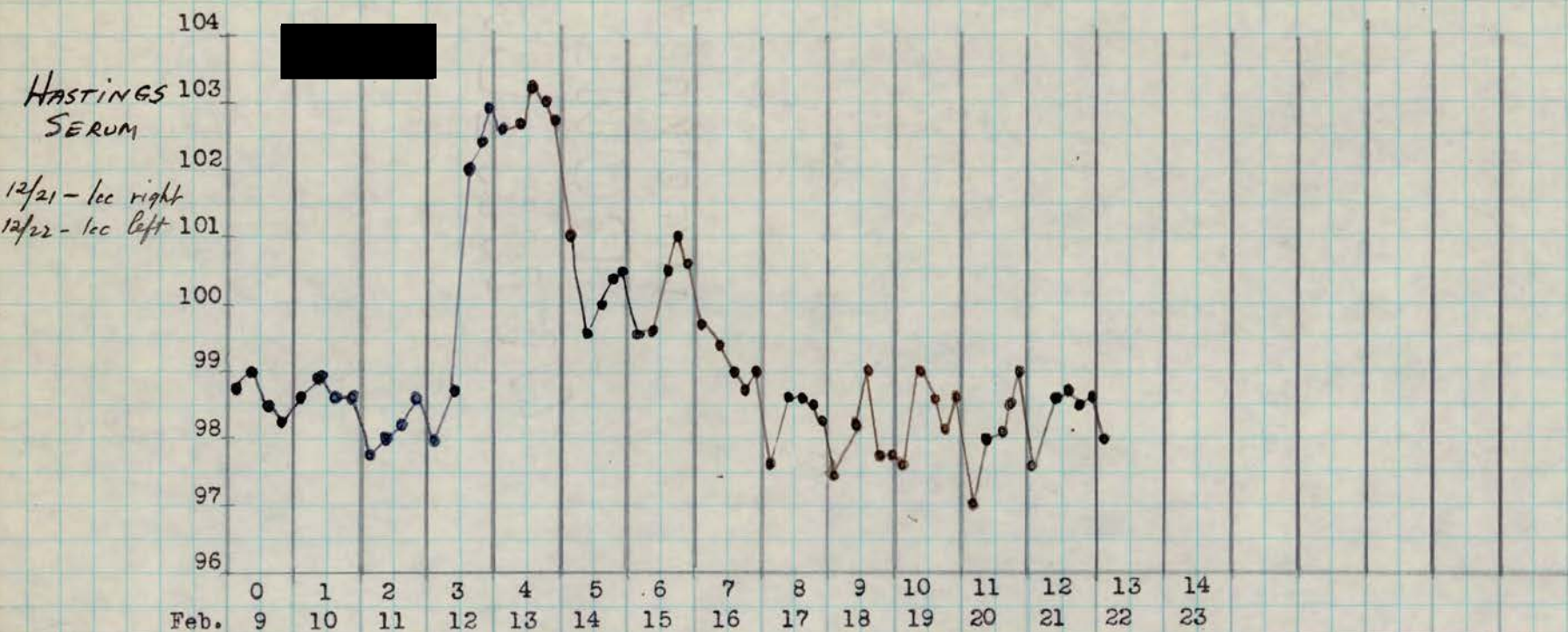
Lymphocytes 3 3 9 12 7

Monocytes 3 1 1 3

Eosinophiles 3 1 1 3

Basophiles

SUSCEPTIBILITY TO "ITALIAN" VIRUS OF VOLUNTEER USED IN Aedes Aegypti EXPT



Inoculated Site
Generalized Rash

Rt-0 Rt-0 Rt-0
L-0 L-0 L-0

TOTAL WBC	8100	4950	6800	5800	2150	3600	4750	5700	7000	5650
Neutroph.-Segment	51	51	27	14	10	22	52	34	20	
Staff	4	15	22	13	33	22	16	4	7	5
Juvenile Myeloc.					1					
Lymphocytes	42	21	41	56	44	57	48	40	51	72
Monocytes	2	10	22	4	9	10	12	3	6	3
Eosinophiles	1	3	15			1			1	
Basophiles						1			1	

[REDACTED]

12 February 1945, 6:30 P.M.

Sudden onset of frontal headache and backache at about 3:00 P.M. Temperature 102° at 4:00 P.M. Severe headache over eyes and some pain in eyes themselves, especially on movement. Mouth, nose, throat, negative. No other complaints. Physical examination negative, except for conjunctival injection, tenderness of eyeballs and pain on movement of eyes. Lymph nodes "shotty", but not enlarged. 80 cc. of blood obtained at 6:00 P.M.

13 February 1945, 7:00 P.M.

Patient looks acutely ill lying in bed under many blankets, began feeling very chilly ~~xxxxxxx~~ early in the afternoon. Severe headache and transitory pain in right side of chest and abdomen chief complaints. Anorexia, but no nausea. No altered taste or bad taste. Constipated. Eyes still tender to touch and somewhat painful on movement. Otherwise examination entirely negative.

14 February 1945, 9:30 A.M.

Lies quietly in bed looking very sad and depressed (quite different from usual appearance). Complains of pain in the lower back, head, eyes and occasionally chest. Still takes only fluids, has bitter taste in mouth. No change in physical findings. Perspiring profusely.

15 February 1945, 10:00 A.M.

Still perspiring profusely. Sleeps a great deal. Had to be awakened. Seemed dazed. No complaints this morning. Lymph nodes negative.

16 February 1945, 5:00 P.M.

Looks better now, but headache, pain in the back and in the eyes returned yesterday, still present to some extent. Eyes tender to touch and somewhat painful on movement.

17 February 1945, 1:00 P.M.

Temperature normal, all pain gone, looks much brighter. Wishes to get out of bed.

18 February 1945, 5:00 P.M.

No complaints.

19 February 1945, 5:00 P.M.

Has been out of bed two days now, "legs wobbly and still no appetite."

DENGUE
HAWAIIAN CONVALESCENT

"ITALIAN VIRUS" 104

HASTINGS - 12/21 103

loc. i. cut. - RT. ARM 102

HASTINGS - 12/22 101

loc. i. cut. - LT. ARM 100

96

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Jan.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

1945
Inoculated Site
Generalized Reash

TOTAL WBC 4650 5550 4850 3850 3300 2700 2900 3000 4100 5900 5550

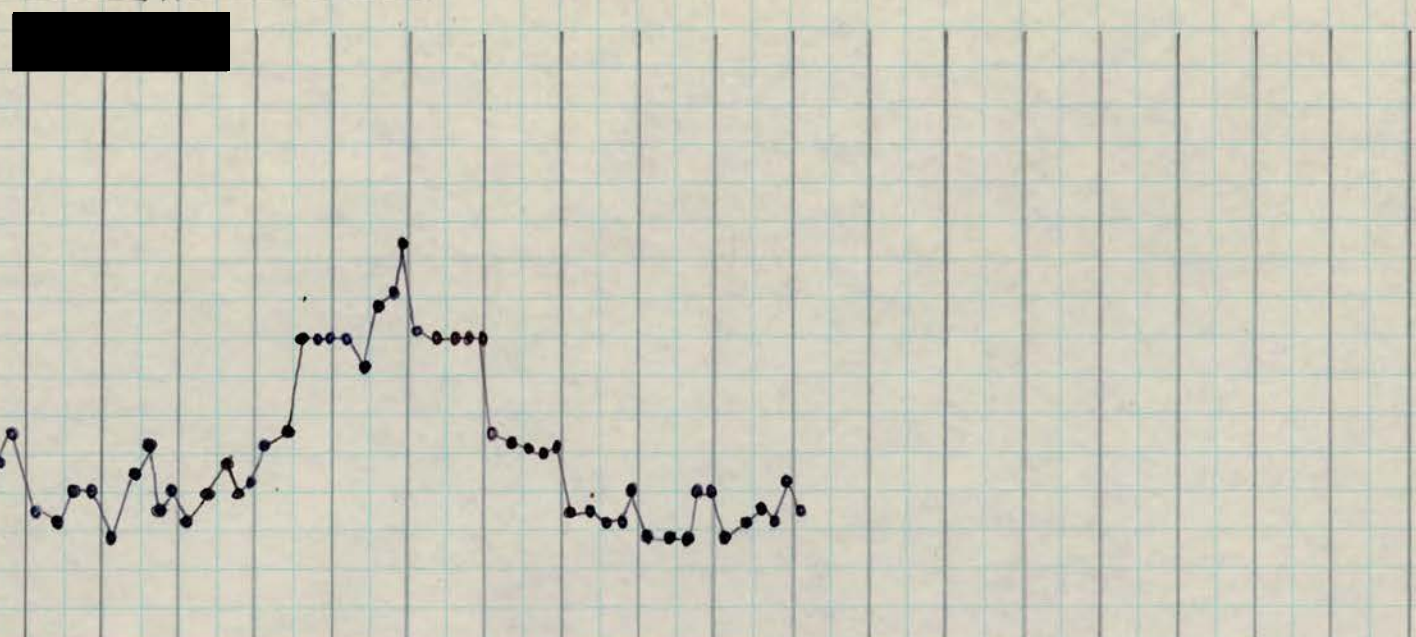
Neutroph.-Segment 54 43 31 6 12 12 3 21 22 34 25
 Staff 13 15 27 8 13 26 9 18 11 1 18
 Juvenile Myeloc.

Lymphocytes 28 30 37 29 73 59 37 57 64 64 56

Monocytes 4 10 5 4 2 3 4 2 1 1

Eosinophiles 1 2 3 1 1

Basophiles



[REDACTED]

January 8, 1945, 7:15 P.M.

Onset about 2:00 P.M. with frontal headache, transitory nausea and feeling of warmth. At this time, headache and photophobia are only complaints. No rash or erythema, No reaction at inoculated sites. Mouth, nose, throat negative. Lymph nodes: Not enlarged and palpable with difficulty. Eyes: No conjunctival injection; slightly tender to touch and painful on movement. Vomited after this note was completed; and several times during the evening.

January 9, 1945, 6:15 P.M.

Feels better than yesterday. Has not been nauseated and has been able to eat today. Has slight headache and "muscle ache" in left leg. P.E. Slight photophobia. Otherwise entirely negative.

January 10, 1945, 2:00 P.M.

No complaints. P.E. essentially negative.

January 11, 1945, 5:30 P.M.

"Nothing bothers me, I am as good as new." No weakness or dizziness when he gets up out of bed. Physical examination entirely negative.

January 13, 1945.

Up and about feeling fine.

January 8, 1945, 6:50 P.M.

Onset about 11:00 P.M. with feeling of heat in lower back followed by chilliness and headache. Since this morning he has almost continuous profuse perspiration. Feels much the same as during his first attack of sandfly fever, except that his neck does not feel stiff this time. His head does not hurt steadily, but the slightest movement of the head or body bring on pain as does movement of the eyes. Has anorexia, but no nausea or vomiting. Patient looks ill, perspiring profusely. Skin hot, dark brown in color, but no rash or any reaction at inoculated sites evident. No lymph node enlargement, except that the post. cervical nodes seem easily palpable. Mouth, nose and throat negative. Eyes: Marked conjunctival injection; eyeballs not tender to touch, but painful on movement.

January 9, 1945, 6:00 P.M.

Feels much better today. Only complaint: Slight headache, particularly on moving head.

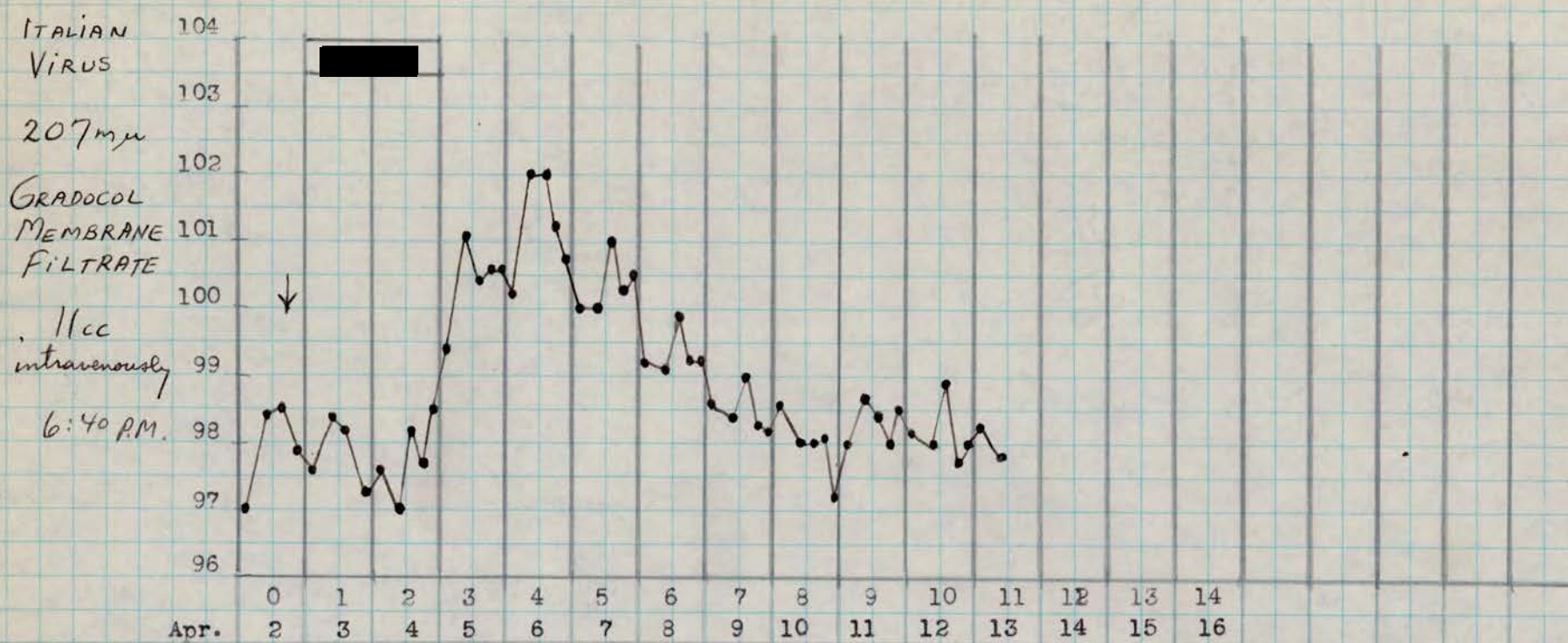
P.E. Does not look acutely ill. Perspiring profusely. No rash noted. Mouth negative. Eyes: Conjunctivae slightly injected. No photophobia. No pain on movement. Chest and abdomen negative. Lymph nodes: Post. cervical, axillary, epitrochlear palpable.

January 10, 1945, 2:00 P.M.

No complaints. P.E. negative.

January 11, 1945, 5:45 P.M.

Up and about feeling fine. Wants to know if he can be discharged. Conjunctival injection still present. Otherwise negative.



Inoculated Site
Generalized Rash

TOTAL WBC	5300	5200	7750	4100	6850	4500	4600	5500
Neutroph. - Segment	62	42	48	32	15	26	31	48
Staff	2	12	25	16	18	8	11	5
Juvenile Myeloc.								
Lymphocytes	27	39	17	38	58	60	43	42
Monocytes	5	6	9	13	5	6	13	4
Eosinophiles	4		1	1	4		1	1
Basophiles		1					1	

[REDACTED]

5 April 1945, 8:15 P.M.

Temperature began to rise this A.M. At the same time headache, backache, and pain in the shoulders developed. Also has pain in the eyes. Has marked photophobia; otherwise physical examination negative.

6 April 1945

Mrs. Rich: Headache chief complaint.

7 April 1945, 1:30 P.M.

Patient states that he has had a very bad day yesterday and a very bad night. Headache, pain in the eyeballs, pain in the back, and joints, anorexia and perspiration. Right now symptoms less marked, but still present. Very bad taste in mouth since this morning. Physical examination negative except for marked tenderness of eyeballs and pain on moving them in any direction. One enlarged lymph node in left posterior cervical region and axillary nodes on both sides seem enlarged.

9 April 1945

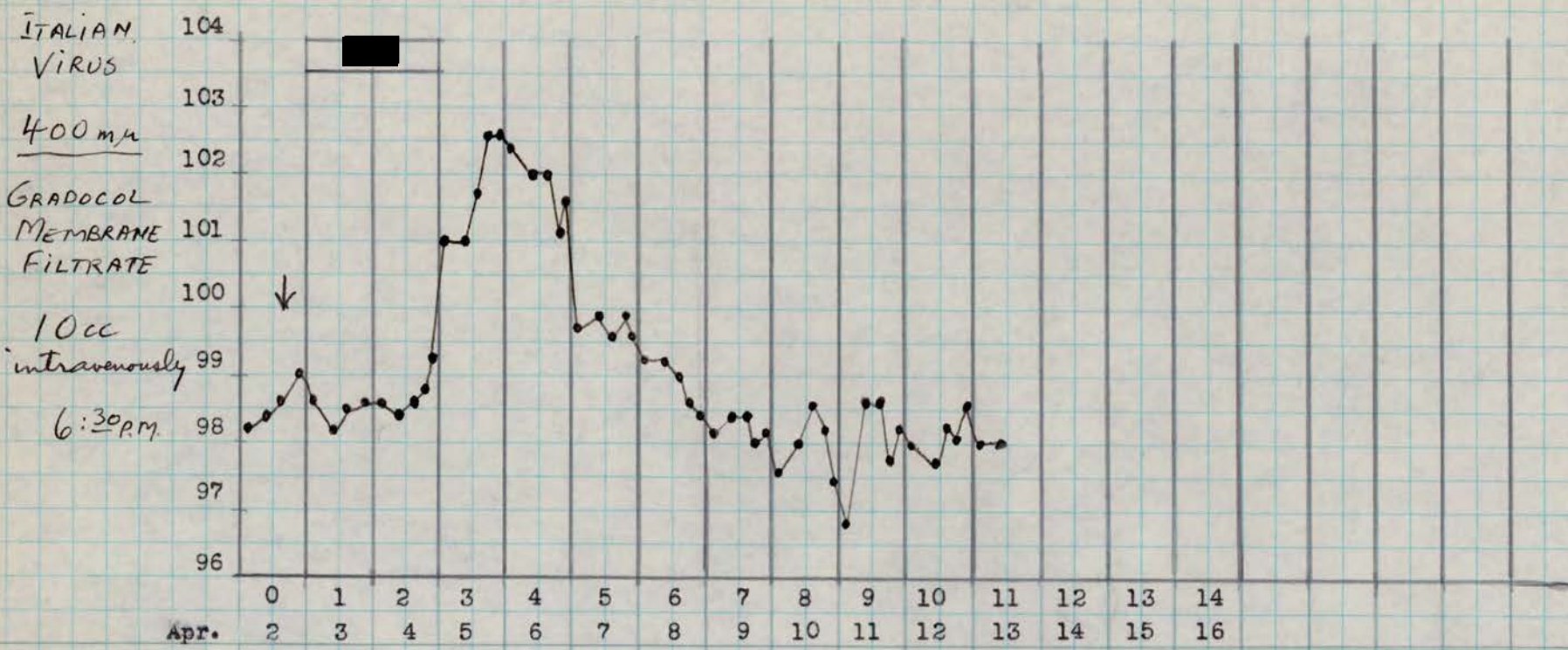
Perspired profusely last night. Feels fine this morning. Appetite returned. Physical examination negative except that eyeballs are still somewhat tender to the touch.

10 April 1945

Out of bed today, feels somewhat weak, but otherwise fine.

12 April 1945

Up and about, no complaints. Looks and feels well.



Inoculated Site
Generalized Rash

TOTAL WBC	10500	505036506650	4700460062506750
Neutroph.-Segment	55	50 38 33	30 28 39 35
Staff		10 24 26	23 12 16 11
Juvenile Myeloc.			
Lymphocytes	37	34 26 33	44 50 34 51
Monocytes	6	5 10 7	3 4 10 1
Eosinophiles	2	1 1	6 2
Basophiles		1 1	1

5 April 1945, 8:00 P.M.

Temperature began to rise last night. Has headache and aches in both deltoid regions and thighs and back. Wandering pains in joints, especially knees and ankles. Pain in eyes. P. E. Negative.

6 April 1945

Mrs. Rich: Headache, eyes burn, backache. No rash.

7 April 1945

Had bad day and night. Feels better today. Only slight headache, but back still painful. Anorexia persists and very bad taste in mouth. Physical examination negative. No rash. No lymph node enlargement.

8 April 1945

No rash, dizzy when he gets out of bed.

9 April 1945

Up and about, somewhat weak, not as bad as yesterday. Slight frontal headache still present. Anorexia and bad taste persist.

10 April 1945

Stronger today. Appetite returning. Bad taste gone. No rash.

12 April 1945

Up and about. No complaints.

[REDACTED], [REDACTED]
January 2, 1945, 4:30 P.M.

Upon arising yesterday morning, he felt slight stiffness in the back of the neck and slight abdominal pain. About 4:00 P.M. he began to have chills, and his temperature rose, a "splitting" headache developed and he felt nauseated. Today the severe headache persists as the outstanding symptom. Chilliness and anorexia are the other symptoms. No complaints relative to the eyes, nose, throat, back, chest, or extremities. No abdominal pain or nausea today. States he feels exactly the same as he did during his first attack about 11 weeks ago. High fever, looks ill, but not prostrated. Physical examination entirely negative. Although skin is light brown in color, there is no indication of a rash or any definite reaction at the inoculated sites.

January 3, 1945, 5:00 P.M.

Abdominal pain--generalized--chief complaint today. Nausea, but no vomiting. Moved his bowels yesterday. Backache and soreness of eyes also present today. Examination negative. Abdomen soft, not tender. Gas in R.L.Q. No lymphadenopathy. Eyes tender to touch.

January 4, 1945, 2:15 P.M.

Nausea and abdominal pain persist, not relieved by enema. Gas still present in R.L.Q. No abdominal rigidity. Still complains of pain in the eyes. Eyes tender to touch, otherwise physical examination negative.

January 5, 1945, 4:30 P.M.

Feels much better. Had one "small" bowel movement. Still has abdominal pain and painful eyes. P.E. Unchanged since yesterday.

January 6, 1945

Still has anorexia and abdominal soreness.

January 7, 1945

Feels well now. No complaints--eats.

January 8, 1945

No complaints. Feels strong as before.

January 7, 1945, 7:55 P.M.

Onset midmorning with headache, pain in the back, the legs, and the joints. States he feels worse now than when he had his attack of dengue. No symptoms referable to nose or throat. No cough. No anorexia, nausea, or vomiting. Slight photophobia and soreness of eyes. Looks flushed, face, neck and back are red. No rash or any reaction at inoculated sites. No lymphadenopathy. Mouth and throat negative. Remainder of physical examination also negative, except for conjunctival injection, tenderness of eyeballs, and some pain on moving eyes upwards. 100 cc. of blood taken.

January 8, 1945, 7:10 P.M.

Headache, pain in the legs, and abdominal discomfort due to 3 days' constipation are chief complaints. No anorexia, nausea or vomiting. Looks very flushed, even more red than yesterday. Looks and feels as if he were sunburned. Physical examination unchanged.

January 9, 1945, 5:00 P.M.

Last night's enema brought immediate relief and patient feels better today. Still feels as if he were sunburned, but the skin is more sensitive on his scalp and forearms than anywhere else.

P.E. Face red. Otherwise no rash or erythema. Otherwise unchanged.

January 10, 1945, 1:30 P.M.

Feels much better and wants to get up. Still has "sensitive" skin and occasional ache in his legs.

P.E. Erythema of back. Patient has very marked dermographism. Otherwise negative.

January 11, 1945, 5:30 P.M.

No complaints, feels fine. Does not feel weak or dizzy when he gets up out of bed.

Skin is described yesterday, but patient says that is not unusual for him.

Physical examination negative.

January 13, 1945

Has complained of abdominal discomfort in the last two days. Constipated. Abdomen: "fecal" masses felt throughout abdomen. Prescribed enema. No other complaints otherwise. No nausea or vomiting. Eats well.

104

103

102

101

100

99

98

97

96

KOSNOFF
SERUM1cc i.cut.
RT. FOREARM

4.4cc i.ven.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Dec.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1

Inoculated Site		○	○	○	○	○	○	○	○	○	○				
Generalized Rash		○	○	○	○	○	○	○	○	○	○				

TOTAL WBC	9250			6600	7500	7400	6150	6450	5700	7250	6500	9850			
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Neutroph. Segment	44			38	46	32	28	34	28	32	40	41			
Staff	3			6	15	12	11	10	9	12	12	3			
Juvenile						1									
Myeloc.															

Lymphocytes	49			54	37	51	55	53	61	51	45	42			
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Monocytes	3			2	2	3	6	2	1	1	3	4			
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Eosinophiles	1								1	4		4			
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Basophiles						1		1							
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December 18, 1944, 3:00 P.M.

"Kosnoff" Italy serum inoculated intracutaneously (1cc.) and intravenously (4.4 cc.)

December 19, 1944.

No complaints.

December 20, 1944

No complaints.

December 21, 1944, 11:15 A.M.

Slept through the night, but awoke this morning feeling as if he had "a cold coming on". Frontal headache and feeling of congestion in nose. About 8:45 A.M. he had a profuse nose bleed. There is no evidence of rhinitis. Mouth and throat and eyes negative. No erythema or rash. Temperature at 8:00 A.M. 98°; now 98.8°, pulse 62. 100 cc. blood taken at 12:45 P.M.

December 22, 1944, 11:00 A.M.

Spent a restless night. Complains of headache, pain in the lower back, and "tired feeling" in the legs. Temperature 100.9° at midnight. 101.4° at 8:00 A.M. P.E. entirely negative. 90 cc. of blood taken. 50 mosquitoes (A. aegypti) fed.

December 23, 1944

Yesterday patient's chief difficulties were headache, backache, aching and very tired feeling in legs, anorexia. Today temperature is down to 99.2°, but he still feels sick, has hot and cold flashes (not real chills), frontal headache, aching in the eyeballs and left temporo-mandibular joint, anorexia.

Physical examination entirely negative, except for tenderness of eyeballs to touch and some pain on extreme movements of eyes. No rash, no enlarged lymph nodes. Nose and throat negative; liver and spleen not palpable.

December 24, 1944

Feels much better today. Only slight headache and ache in back of neck.

P.E. Unchanged, except for (definitely enlarged post. cervical lgl. ?)

December 25, 1944

No complaints; feels and looks fine. No enlarged lymph nodes, post. cervical nodes palpable, but not enlarged. No rash. Epistaxis again.

December 26, 1944.

Same as yesterday. Slight backache. No rash, no lymphadenopathy.

December 28, 1944

Has been up and about last 2 days. Slight dyspepsia and persistent slight frontal headache. No lymphadenopathy, no rash.

27 February 1945, 6:00 P.M.

Last night had some backache, but did not feel ill. Early this morning began to feel sick, chilliness, profuse perspiration, severe pain in the eyes, especially on movement. Pain in back, more severe, involving also hips. Anorexia, no nausea or vomiting. Looks ill, perspiring profusely, skin hot, conjunctivae injected. Eyes very tender to touch and painful on movement. Lymph nodes negative. No rash. 100 cc. of blood taken about noon. States he feels worse now than during his first attack.

28 February 1945, 9:15 A.M.

Pain in the eyes, chief trouble, while pain in lower back persists, but not as marked. Eyes same. No rash.

1 March 1945, 4:45 P.M.

Pain in tempero-mandibular joints, first left, now right; also in insteps. Otherwise much better. Bowels moved twice today.

2 March, 1945, 5:15 P.M.

Feels about the same as yesterday. Shooting pains about every 5-10 minutes in both temples persist. Has also pain in small of back and in right groin. Appetite only fair. P.E. Negative, except for tenderness of eyes to touch and upward movement.

3 March 1945, 12:45 P.M.

All pain gone. Only complaint is nausea since this morning.

4 March 1945

No complaints, up and about.

5 March 1945

No complaints, up and about.

6 March 1945

No complaints, up and about.

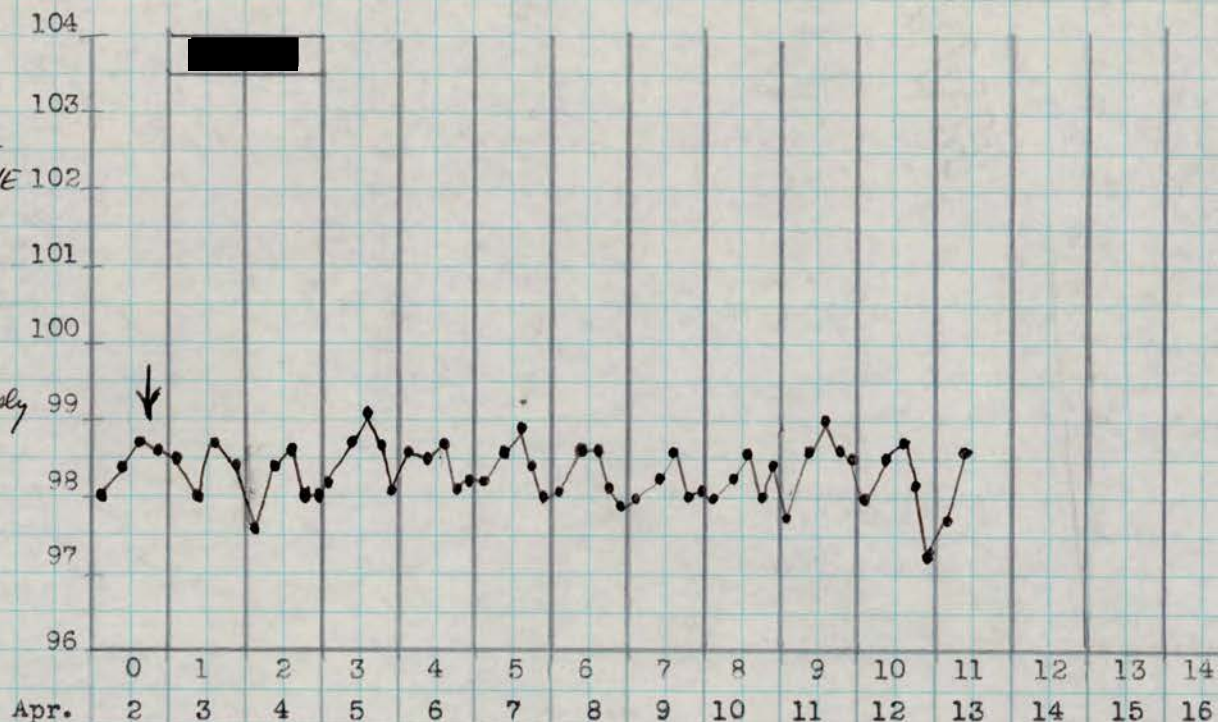
ITALIAN VIRUS

GRADOCOL MEMBRANE 101mm FILTRATE

16cc

intravenously

6:45 P.M.



Inoculated Site
Generalized Rash

TOTAL WBC 7300 6800 5200 6650 7500 9000 7000

Neutroph. - Segment 50 56 48 39 59 50 49
 Staff 4 4 3 4 2 1
 Juvenile Myeloc.

Lymphocytes 34 37 37 53 31 40 33

Monocytes 8 2 11 3 6 7 12

Eosinophiles 3 1 1 1 3 4

Basophiles 1 1 1

[REDACTED]

7 April 1945

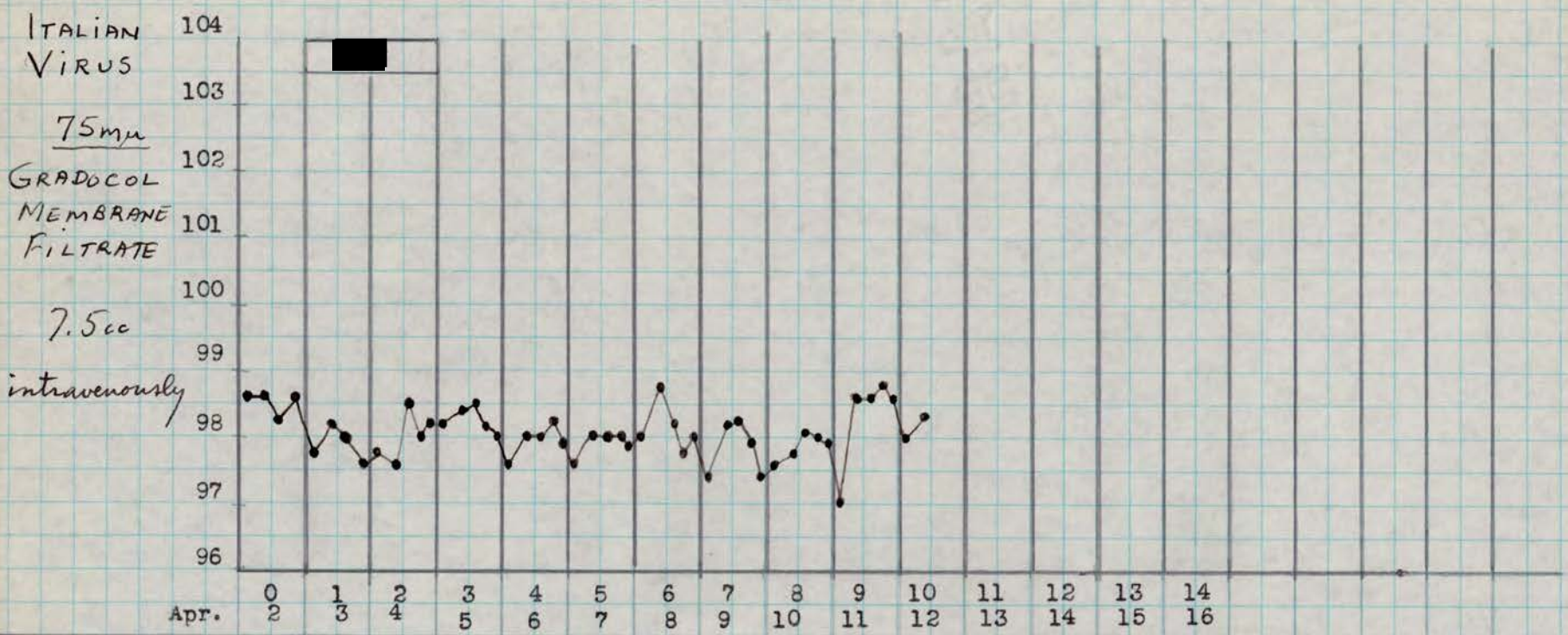
Up and about, temperature normal. States that since yesterday he has had aching in thighs and lower back. No other symptoms.

9 April 1945

Feels well today.

13 April 1945

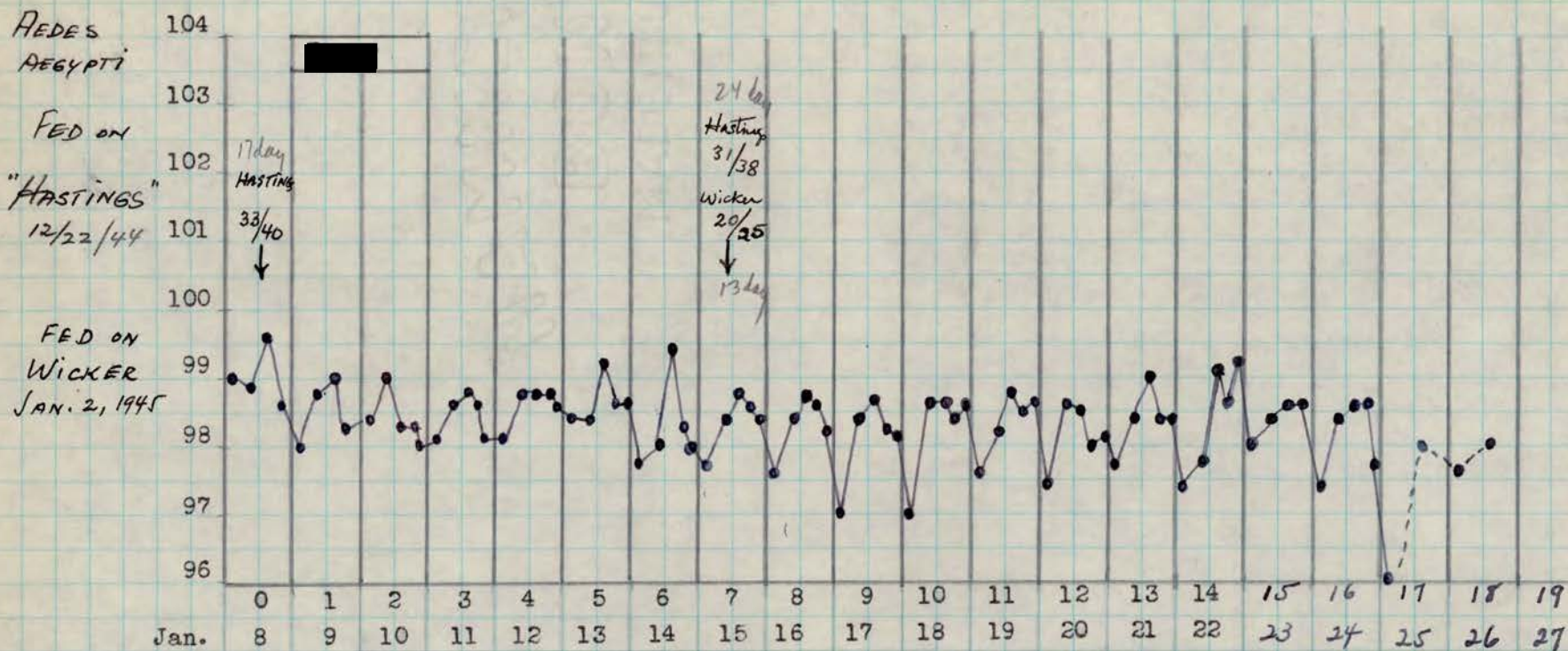
Discharged. Has been well.



Inoculated Site
Generalized Rash

TOTAL WBC	5100	4800	5950	4100	3700	5900	5850	5500
Neutroph.-Segment	26	46	38	34		28	42	20
Staff	1	2	3	5		2		3
Juvenile								
Myeloc.								
Lymphocytes	66	48	56	59		62	51	63
Monocytes	3	2	3	1		8	5	10
Eosinophiles	2	1					2	3
Basophiles	2	1						1

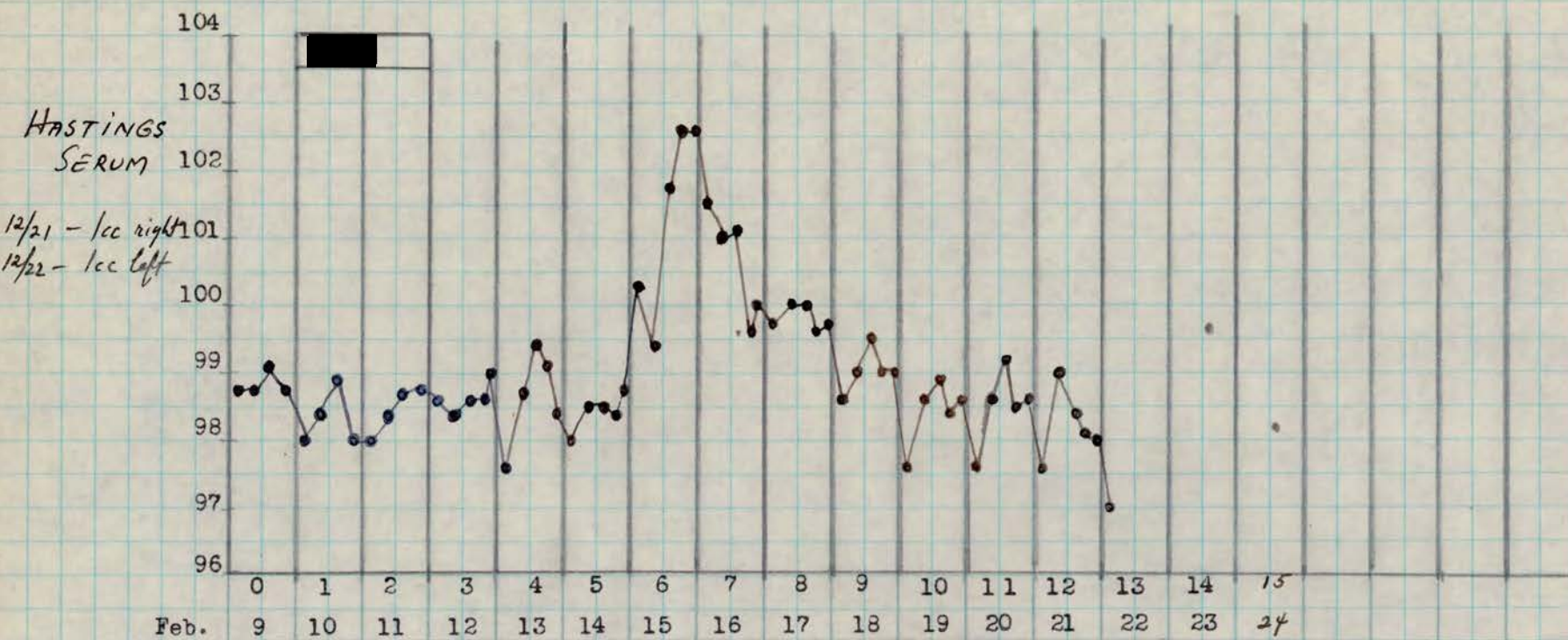
CAPACITY OF Aedes Aegypti TO TRANSMIT "ITALIAN" VIRUS



Inoculated Site
Generalized Rash

TOTAL WBC	7350	6600	6650	6900	6200	5800	7150
Neutroph. - Segment	56	28	43	50	41	42	45
Staff	4	4	4	5	8	7	1
Juvenile Myeloc.					1		
Lymphocytes	35	65	51	36	49	47	49
Monocytes	5	3	2	6	2	4	3
Eosinophiles				3	4		2
Basophiles							

SUSCEPTIBILITY TO "ITALIAN" VIRUS OF VOLUNTEER USED IN Aedes Aegypti Expt



	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Feb.	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Inoculated Site		R-O L-O	R-O L-O	R-O L-O	R-O L-O	R-O L-O	R-O L-O	0	0	0	0	0				
Generalized Rash		0	0	0	0	0	0	0	0	0	0	0				
TOTAL WBC	6950				5600	7750	5450	4850	4350		3500	4000	4600		6400	
Neutroph.-Segment	46				40	48	33	16	22		20	21	22		54	
Staff	6				23	12	33	46	23		34	17	13			
Juvenile	1							2								
Myeloc.																
Lymphocytes	40				32	31	29	31	47		41	51	63		36	
Monocytes	6				2	5	2	5	6		5	8			7	
Eosinophiles	1				3	4	3		2			2	2		3	
Basophiles												1				

February 15, 1945, 9:30 A.M.

States that he felt well until about 10:00 P.M. last night when he noticed an occipital headache. This morning has pain in the lower back and in the calves of the legs, not very severe. Does not look ill. No headache now. Eyes O.K. Physical examination entirely negative. Lymph nodes normal. No rash. 100 cc. of blood taken.

February 16, 1945, 5:00 P.M.

Looks ill today; head and neck flushed. Nauseated from noon yesterday until about 2 hours ago when it disappeared after a bowel movement. Bad (bitter) taste in mouth, cigarettes have bad taste too. Marked anorexia. Takes only fluids. Alternating hot and cold flashes, frontal headach, backache, and pain in the calves of the legs. Physical examination negative except for tenderness of eyeballs to touch and some pain on movement.

February 17, 1945, 1:00 P.M.

Chief complaint is throbbing pain in both ankles, radiating to the insteps. No other points affected. Slight headache, pain in the eyes on movement persist. Otherwise same.

February 18, 1945, 4:00 P.M.

Feels much better. Chief complaints: Headache, ache in kidney region, weakness. Pain in ankles disappeared.

February 19, 1945, 5:00 P.M.

Out of bed, feels somewhat weak. Still some pain on moving eyes and over kidneys. No lymphadenopathy.

February 20, 1945

Up and about. No complaints.

February 21, 1945

Up and about. No complaints.

January 2, 1945, 5:00 P.M.

Had very slight headache yesterday morning. Towards evening as temperature rose, the headache became severe, and he developed the following symptoms: pain in the eyes, pain in the back of the neck, backache, pain in the knees and ankles. No abdominal pain, nausea or anorexia. No symptoms referable to the nose and throat. Right now he feels better, the only remaining symptoms being moderate headache, pain in the eyes, and photophobia. Physical examination entirely negative. Skin dark brown in color, but no rash or reaction at inoculated sites can be made out. No lymphadenopathy. Eyes, no definite conjunctival injection, but tender to touch and painful on movement. Blood obtained yesterday about 2 hours after first rise of temperature and Aedes aegypti allowed to feed today about 20 hours after first rise in temperature.

January 3, 1945, 5:00 P.M.

All pain gone this morning; only slight soreness remains in the eyes. Physical examination entirely negative.

January 4, 1945, 2:00 P.M.

Feels fine; no complaints; wishes to get out of bed. Physical examination negative. No lymphadenopathy.

January 5, 1945, 5:00 P.M.

Unchanged.

JAN. 25 - Patient states that since about 3 days after discharge he has not felt quite well. He complains of "vague" sharp pains presumably "running up & down" the sides of his chest and abdomen, and not infrequently inside his abdomen. Has regular bowements - takes all his meals - no nausea or vomiting. No difficulty in urination. Abdomen is soft, and presents no masses or localized tenderness. Temp. 98.4 - does not look sick.

26 February 1945, 4:30 P.M.

Felt well upon arising this morning. At about noon, developed frontal headache, photophobia, burning and aching in eyes, aggravated by motion. No pain anywhere else. No anorexia or nausea. Temperature now 100.3°. Physical examination entirely negative except for tenderness of eyeballs. 100 cc. of blood taken at 5:00 P.M.

27 February 1945, 6:30 P.M.

Temperature rose to 103.6°. Looks and feels ill now. Chief complaints are headache and abdominal cramps. Also pain in right big toe. Less pain in eyes. Perspires a great deal. Abdomen soft, but full of gas and fecal masses, despite bowel movement yesterday. Otherwise physical examination negative.

28 February 1945, 9:25 A.M.

Abdominal cramps disappeared after emema last night and did not return. Headache and pain in right big toe gone, but aching in and about right elbow today. Fever still present.

1 March 1945, 4:45 P.M.

Fever still present. No pain anywhere, just feels weak. Diarrhea (3 x) today.

2 March 1945, 5:30 P.M.

Feels weak. No specific other complaints. Diarrhea has stopped. Perspiring profusely. Otherwise negative.

3 March 1945

Still anorexia; complains of very bad taste in mouth, "bitter, rotten." Otherwise feels well.

4 March 1945

Up and about, no complaints.

5 March 1945

Up and about, no complaints.

6 March 1945

Up and about, no complaints.