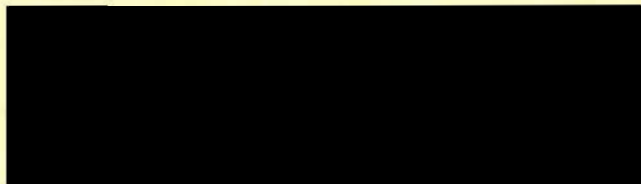


Polio-1947.



Akron.



Wt. 2. 24. 2.

Onset: 8/24/47.

c.c. "Stiff neck".

History:

(2 1/2 weeks ago child had fever and tonsillitis which was seen by M.D. It responded rapidly to sulfa therapy, and she was entirely well for the next 14 days, actively playing.)

The evening of 8/24/47 child appeared listless to the mother. and child complained of pain in the anterior portion of right thigh, and said she had hurt it playing in the swing that day.

The A.M. of 8/25 she complained of headache, and she held her neck rigidly, and said her "back hurt her". - Had very poor appetite today.

Admission

Exam:-

Temp. 102° F.

Marked nuchal and back rigidity, yet very little hamstring tenderness or spasm can be detected. - NO weakness or paralysis.

C.S.F. 8/25/47

cells. 230

lymphs 55%

Polys 45%

Glucose +

Notes:

8/26/47. - Temp. 100° F. - Neck still quite stiff, back a little less stiff than on admission.

8/27/47. - T. 100° F. - Neck quite stiff. hamstrings mod. stiff. Back O.K.

8/28/47. - T. 99° - Neck supple; hamstrings mildly stiff.

8/29/47. T. 99°. Neg. to exam.

8/30/47. T. 99°. " " " "

OP Swat.

Stool.

8/25
8/26
8/27
8/28
8/29
8/30

✓
✓
✓

-
✓ normal, small ant solids.
✓ formed.
- clear mucus discards.
- d. 100.
✓ effective therapy.

JAN 5 1948

A. Stool Material -

Solids Present
Liquid Present
Saline Added

100 gms.
100 cc
400 cc.

20% suspension.

Blended at low speed for one minute.

Portion Refrozen
For Intranasal Use

± 180 cc. Box "C"
 $= \pm 35$ cc

Spontaneous settling for one hour in refrigerator.

Etherization - of 200 c.c of suspension with 40 cc of ether; shaken for 10 minutes and refrigerated.

1-6-48 Reshaken 10 minutes; centrifuged 30 minutes; middle layer = 140 c.c.

B.A.P. Cultures.

	DAYS.			
	1	2	3	4
a) Treated Stool Alone 0.2 c.c.	10 large colonies and ± 150 small colonies	covered to a spreader	→	→
b) + Penicillin 5000 μ /c.c.	No growth.	No growth	No growth	No growth
c) + Streptomycin 5000 μ /c.c.	No growth.	"	"	"
d) + Penicillin } $\overline{aa}$ + Streptomycin } 5,000 μ /c.c.	No growth.	"	"	"

JAN 5 1948

B. Pharyngeal Swab Material -

$$\begin{array}{rcl} \text{Swabs plus } 0.6 \text{ cc Buffer \#1} & = & 2.9 \text{ cc.} \\ \text{Buffer \#2} & = & 0.6 \text{ cc.} \\ \hline & & 3.5 \text{ cc.} \end{array}$$

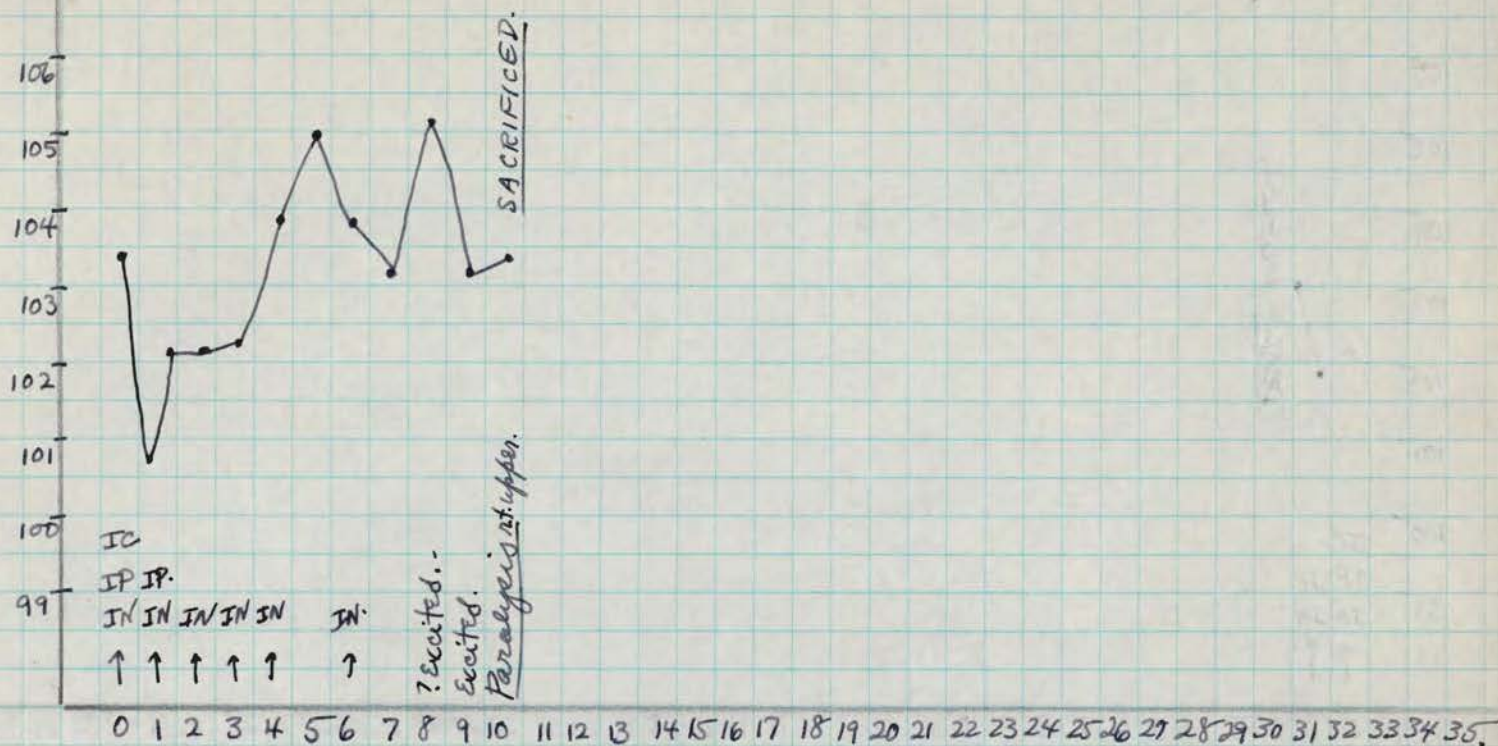
Ether Added = 1.0 cc.; shaken for 10'; refrigerated.

1-6-48. Centrifuged (horizontal) - for 15 minutes.
Culture: ✓✓✓

JAN 6 1948

- Rhesus #62 -

Treated pharyngeal swabs IC
Treated stools. IP
Untreated stools IN.



1-6-48. - Inoculated 1.5 cc IC; 1 cc per nostril; 20 cc IP together with 100,000 units and 100 mgms. Streptomycin IP.

1-7-48 A.M. Temp = 100.7; animal sluggish - lies on right side - however no abdominal distension and no remarkable tenderness.

P.M. - Temp. = 102.2; animal ate most of proffered food. - Was then inoculated IN and IP together with 100,000 units of penicillin and 100 mgms of streptomycin.

1-8-48. - A.M. T = 102.2; P.M. = 102.5.

1-11-48. - T. 105°; active; not excited; 20 pilomotor response; no weakness or paralysis; no abdominal tenderness or distension.

1-16-48 - Paralysis rt. upper; weakness of left upper and both lowers; cranial nerves intact. - Sacrificed (chloroform). Autopsy:

COLON CONTENTS: Frozen in testuroid tube. (B-3-1)

TISSUE FOR PATHOLOGY: - cord levels; medulla; thalamus; hypothalamus; cll. bulbs. (2A)

TISSUE FOR VIRUS: - cord - medulla wt = 3.7 gms; made up with 15.0 cc of saline as a 20% suspension; final amt = 13.7 cc; frozen in two 20 cc ampoules (B-1-3)

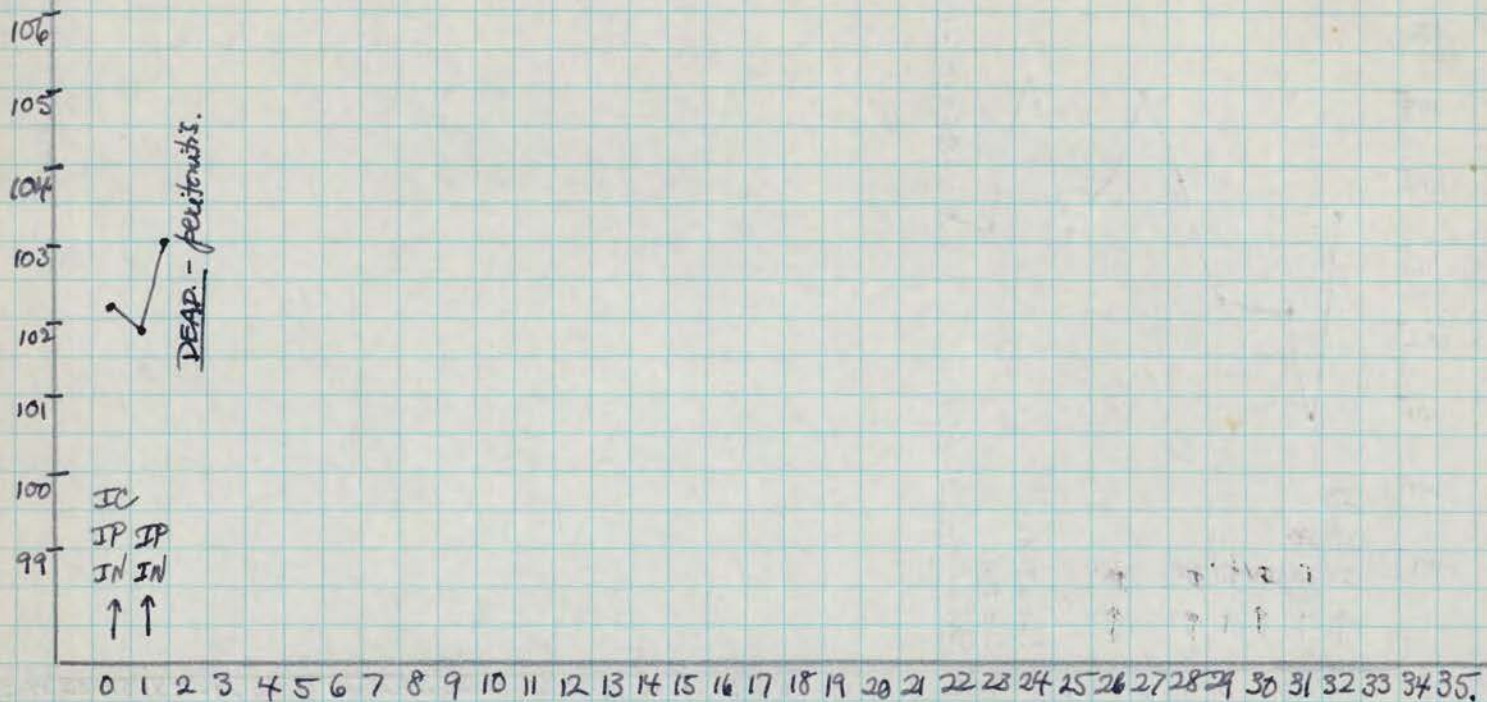
Cult: - ✓ x 4 col. small pinpoint white colonies - Smear: 8m + rods

3-1-48. Materials of both amps. thawed and 2.0 cc removed for passage to Rh #1561 and Rh 1663. Remainder of amps. pooled in one 20 cc amp and frozen (B-1-3) Culture: ✓✓✓

Histology - Polio

JAN 6 1948

-CYNOMOLGUS #63-



1-6-48 - Inoculated 1.5 cc IC; 1 cc per nostril; 20 cc IP together with 100,000 units Penicillin + 100 mgms. Streptomycin IP.

1-7-48 - A.M. Temp = 101.8 - seems O.K.

P.M. - Temp = 103.0; seems O.K. - was then inc. with IN and IP. The latter including 100,000 u of Penicillin and 100 mgms. of Streptomycin.

1-8-48 - Dead. Autopsy: peritonitis.

SMEAR PERITONEAL FLUID: - packed with polys, and with very numerous short gram + rods. (slide saved)

Peritoneal Fluid: - frozen in skimmed milk pH 7. (B-1-1)

Penicillin level: - 16 units/c.c.

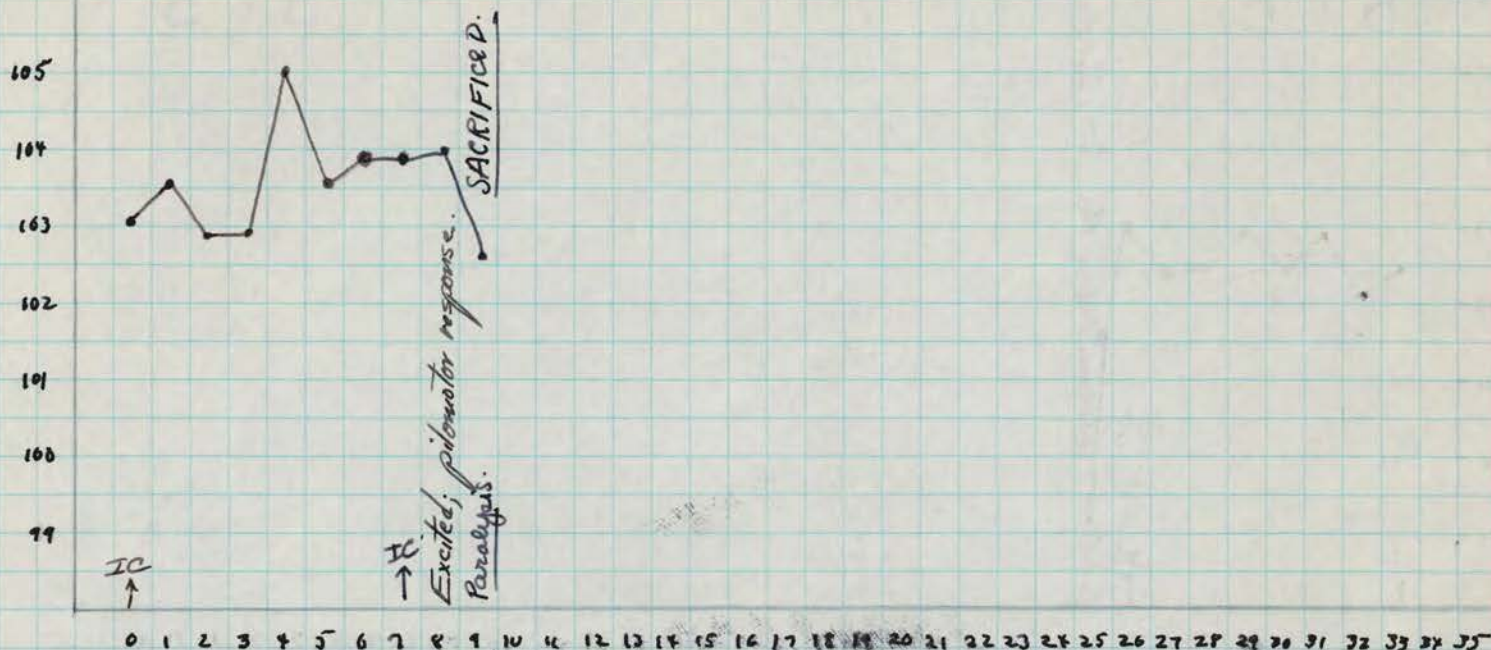
Streptomycin level: - 160 units/c.c.

12-16-48 Peritoneal

MAR 1 1948

STRAIN - Generation ii

Rhesus #1561 - Splenectomized.



3-1-48: Inoc. I.C. = 1.0cc. of 20% susp. in saline; strain - gen. i.

3-8-48: Re-inoc. IC with 1.0cc of 20% strain - Gen. i.

3-18-48: Partial paralysis rt. lower; marked weakness left lower; weakness of both uppers; tremors; pilomotor response.

Sacrificed (chloroform-exsanguination) - Autopsy: no gross TBE

TISSUE FOR PATHOLOGY: cord segments at cervical and lumbar levels. (2-A.)

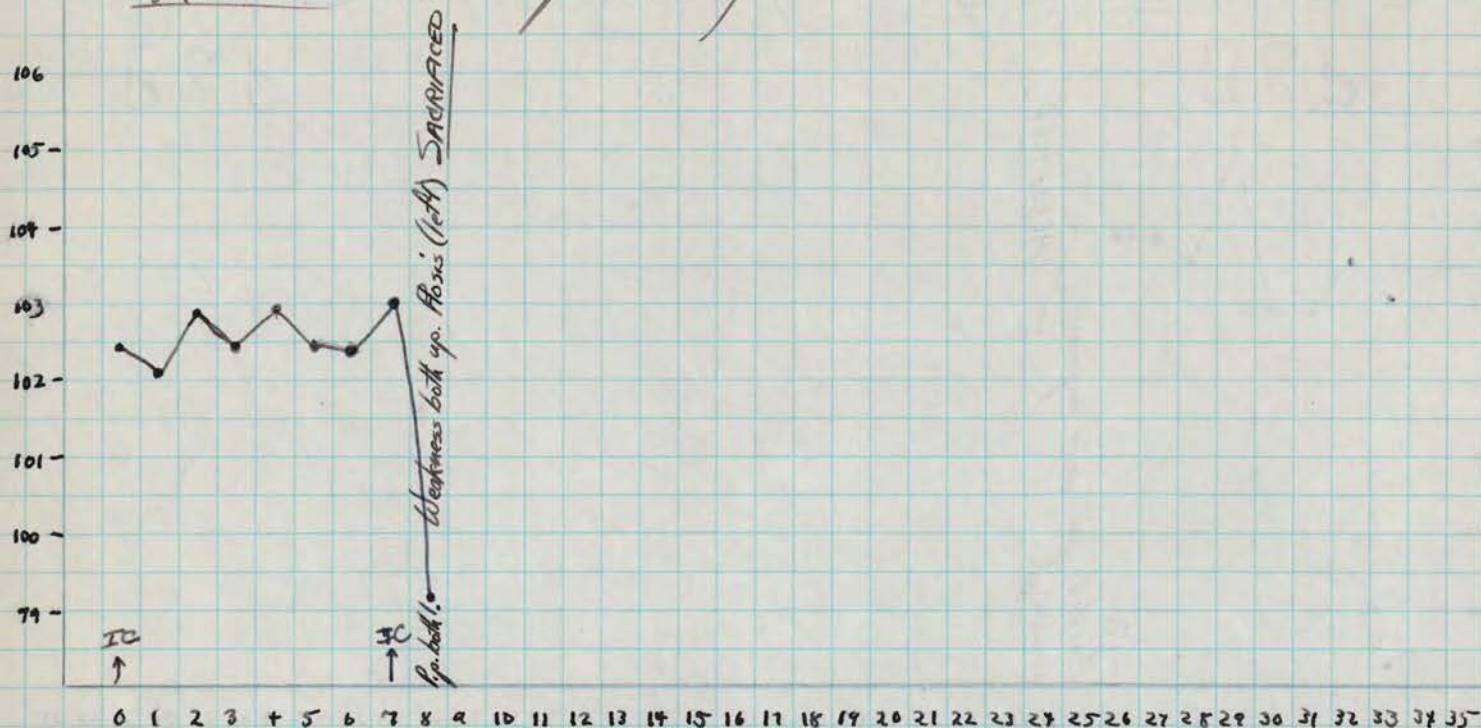
TISSUE FOR VIRUS: Remainder of cord medulla pooled with that of thawed cord of Rh #1663 (overleaf); total combined wt = 11.1 gms; made up with 44.0c.c. of saline as 20% susp.; distributed in 1-10cc and 3-20cc. ampoules designated as (#1, 2, 3, & 4); frozen. - (B-2-6)

Culture: V.V.I.

MAR 1 1948

STRAIN - Generation ii

Rhesus #1663 - Splenectomized



3-1-48 - Inoc. IC. ≈ 1.0 cc of a 20% susp. in saline of [redacted] virus strain, generation i.

3-8-48 - Re-inoc. IC with 1.0 cc of 20% [redacted] strain - Gen. I

3-9-48; Par. par. both lowers. Weakness of both uppers flaccid on the left. Ant. neck muscles weak on left side.

SACRIFICED: (chloroform-exsanguination) No gross lbc.

HISTOPATH.: Sections taken of cervical & lumbar cord (2-A)

FOR VIRUS: Remainder of cord and medulla frozen in a tasteroid tube and stored. (c-2)

3-10-48: Cord and medulla of Rh#1663 thawed and pooled with that of Rh#1561 to make a 20% susp. in (44 cc.) sterile saline. (See overleaf.)

Histology - Polio

TITRATION OF HUMAN POLIO STRAINS

4-25-48:

STRAIN (Gen. ii)

Virus used: [redacted] strain polio (gen. ii in monkeys), 20% in saline diluted in saline as indicated below.

Monkeys used: All normal rhesus monkeys.

Mixtures used: Dilutions, as indicated below, made up in saline - kept at room temperature (86°F) for one hour - then into refrigerator overnight for about 15 hours - then into ice bath during inoculations on 4-26-48.

Inoculum: 0.5 cc. intracerebrally per monkey. 4-26-48.

<u>DILUTION</u>	<u>MONKEY #</u>	<u>CLINICAL FINDINGS</u>	<u>HISTOLOGY</u>	<u>RESULT</u>
10 ⁻²	Rh 375	O; K ₂₈	○	1/3
	Rh 376	O; K ₂₈	○	
	Rh 377	P ₁₅	+	
10 ⁻³	Rh 378	O; K ₂₈	○	0/3
	Rh 379	O; K ₂₈	○	
	Rh 380	O; K ₂₈	○	
10 ⁻⁴	Rh 381	O; K ₂₈	○	0/3
	Rh 382	O; K ₂₈	○	
	Rh 383	O; K ₂₈	○	
10 ⁻⁵	Rh 384	○ Given to [redacted] Christ Hospital.		0/3
	Rh 385	⊖ " " " " "	" "	
	Rh 386	⊖ " " " " "	" "	

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. ii)

R# 375

 10^{-2}

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

5-6-48

10

✓

T=100%

11

✓

12

✓

13

✓

14

✓

15

✓

5-12-48

16

✓

T=101%

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

5-24-48

27

✓

28

✓

SACRIFICED (chloroform-exsanguination)TISSUE FOR SECTION - thalamus, midbrain, medulla,
& single sections of lumbar, thoracic, & cervical cord (2x)

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. II)

R# 376

 10^{-2}

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

5-6-48

10

✓

T=100%

11

✓

12

✓

13

✓

14

✓

15

✓

5-12-48

16

✓

T=101%

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

5-24-48

28

✓

SACRIFICED (chloroform-exsanguination)

TISSUE FOR SECTION - Single sections of lumbar, thoracic, cervical cord, midbrain, medulla, and thalamus. (Z-A)

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. 7)

Rh #377

 10^{-2}

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

5-6-48

10

✓

T=103 $\frac{4}{5}$

5-7-48

11

✓

T=103 $\frac{4}{5}$

12

✓

13

✓

14

✓

5-11-48

15

✓

T=102⁶ Par. par. of both lowers. Pilotator response. Excitement.
SACRIFICED (Chloroform-exsanguination) No Tbc.

TISSUE FOR SECTION - Portions of cervical, lumbar cord (2.5)

TISSUE FOR VIRUS - Remainder of cord-medulla frozen
in a histroid tube.

Culture: ✓✓

(d-8)

5-17-48 Cord & medulla of Rh 377 thawed and made up as a 20% susp.
in 24^{cc} of sterile saline. Wt of cord = 5.8 gms. $\pm$ 21^{cc} frozen
in 2-20^{cc} amps. (designated as Vials #1 & #2) stored (B-2-3)

Culture: ✓✓

HISTOLOGY: Lumbar - acute severe neuronophagia. - Cervical milt.
acute neuronophagia (early)DIAGNOSIS: POLIO - ACUTE

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. II)

R_h# 37810⁻³

DATE	DAY	REMARKS
4-26-48	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
27	✓	
28	✓	<u>SACRIFICED</u>: (chloroform-exsanguination) TISSUE FOR SECTION - Single sections of lumbar, thoracic, cervical cord, medulla, and brain, and thalamus (Z-A) <u>HISTOLOGY</u>: Above sections show no pathological changes. <u>DIAGNOSIS</u>: <u>NO POLIO</u>
5-24-48		

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. II)

Rh # 379

10⁻³

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

10

✓

11

✓

12

✓

13

✓

~~14~~~~✓~~

15

✓

16

✓

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

5-24-48

28

✓

SACRIFICED: (chloroform-exsanguination)

TISSUE FOR SECTION: - Single sections of thalamus, midbrain, medulla, thoracic, cervical, and lumbar cord (Z-N)

HISTOLOGY: All sections show no pathological changesDIAGNOSIS: NO POLIO.

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. II)

R_h # 38010⁻³

DATE	DAY	REMARKS
4-26-48	0	✓
	1	✓
	2	✓
	3	✓
	4	✓
	5	✓
	6	✓
	7	✓
	8	✓
	9	✓
	10	✓
	11	✓
	12	✓
	13	✓
	14	✓
	15	✓
	16	✓
	17	✓
	18	✓
	19	✓
	20	✓
	21	✓
	22	✓
	23	✓
	24	✓
	25	✓
	26	✓
27	✓	
5-24-48	28	✓ SACRIFICED: (chloroform-exsanguination)

TISSUE FOR SECTION - Single sections of lumbar, thoracic cervical cord, thalamus, midbrain, medulla (Z-A)

HISTOLOGY: Examination of above sections shows no pathology.

DIAGNOSIS: NO POLIO

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. II)

Rh #381

10⁻⁴

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

10

✓

11

✓

12

✓

13

✓

14

✓

15

✓

16

✓

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

5-24-48

28

✓

SACRIFICED: (chloroform-exsanguination)

TISSUE FOR SECTION - Single sections of lumbar, thoracic, cervical cord, medulla, midbrain, & thalamus (Z-A)

HISTOLOGY: Above sections show no pathology.DIAGNOSIS: NO POLIO

APR 26 1948

R_H # 38210⁻⁴

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

10

✓

11

✓

12

✓

13

✓

14

✓

15

✓

16

✓

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

5-24-48

28

✓

SACRIFICED (chloroform-exsanguination)

TISSUE FOR SECTION: Single sections of lumbar, thoracic, cervical cord, medulla, midbrain, and thalamus. (Z-A)

HISTOLOGY:

Examination of sections shows no pathology.

DIAGNOSIS: NO POLIO.

TITRATION OF

STRAIN POLIO (Gen. ii)

APR 26 1948

Rh #383

10⁻⁴

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

10

✓

11

✓

12

✓

13

✓

14

✓

15

✓

16

✓

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

5-24-48

28

✓

SACRIFICED (chloroform-exsanguination)
 TISSUE FOR SECTION: Single sections of lumbar, thoracic,
 cervical cord, medulla, midbrain, thalamus. (Z-A)

HISTOLOGY:

All sections show no pathology.

DIAGNOSIS: NO POLIO

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. II)

Rh #38410⁻⁵

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

10

✓

11

✓

12

✓

13

✓

14

✓

15

✓

16

✓

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

28

✓

29

✓ 5-25-48. - Monkey has been well clinically; given to Dr. Schmidt; Christ Hospital.

APR 26 1948

TITRATION OF

STRAIN POLIO (Gen. II)

Rh #385

 10^{-5}

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

10

✓

11

✓

12

✓

13

✓

14

✓

15

✓

16

✓

17

✓

18

✓

19

✓

20

✓

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

28

✓

29

✓

5-28-48 - Monkey has been well clinically. Given to Dr. Schmidt of the Christ Hospital.

TITRATION OF

STRAIN POLIO

APR 26 1948

Rh #386

10-5

DATE DAY REMARKS

4-26-48

0

✓

1

✓

2

✓

3

✓

4

✓

5

✓

6

✓

7

✓

8

✓

9

✓

10

✓

11

✓

12

✓

13

✓

14

✓

15

✓

16

✓

17

✓

18

✓ mid-diarrhea.

19

" "

20

" "

21

✓

22

✓

23

✓

24

✓

25

✓

26

✓

27

✓

28

✓

29

✓ 5-25-48 - Monkey has been well clinically; given to Dr. Schmitt,
Christ Hospital.

POLIO - 1947. - MONKEY HISTOLOGY

<u>M.K.#.</u>	<u>Location -</u>	<u>Thoracic</u>	<u>Cervical</u>	<u>Medulla</u>	<u>Midbrain</u>	<u>Trunk</u>	<u>Hypothal.</u>	<u>Opt. Nerve</u>	<u>Dorsal Root</u>
		<u>PRIMARY ISOLATION.</u>							
		<u>GENERATION. II</u>							
Rh. 62	NH; Pt.	NH.	NH; Pt.	NH; Pt.	—	NH; Pt.	NH; Pt.	NH; Pt.	POLIO
Rh. 1561	NH	—	NH; Pt.	—	—	—	—	—	POLIO.
Rh. 1663	NH; Pt.	—	NH; Pt.	—	—	—	—	—	POLIO.

TITRATION OF GENERATION II

<u>10⁻²</u>	Rh. 375	0	0	0	0	0	—	—	<u>No pres.</u>
	Rh. 376	0	0	0	0	0	—	—	<u>No pres.</u>
<u>10⁻³</u>	Rh. 377								
	Rh. 378								
	379								
	380								
	381								
	382								
	383								