

13 yrs ♀

Reading, O.

- onset 8-14 headache, aching & weakness of legs, fever 104.6.
- 8-15 partial paralysis, right leg.
- " CSF 900 cells 96% polys.
- 8-17 fever still high, complete paral. Rt leg
- " partial " left "
- " 150 cells 70% monos.
- 8-17 collection of saliva begun.
- plug inserted in nose (fell out ~~out~~ during night but was saved on ice.)
- 8-18 9 A. plug in rt.
- 5 P " " removed, fresh one into left.
- 8-19 2 plugs.
- 8-20 plug fell out last night, retrieved & placed in test tube.
- 9:30 A.M. plug inserted
- 5 P " removed.
- saline enema at 12 N. liquid returns, not refrigerated until 5 P.M.

Treatment of Nasal plugs : juice expressed by means of sterile 20cc syringe
 7cc undiluted juice obtained.
 1st extract made by adding 5cc saline to plugs
 & expressing in syringe.
 centrifgd. 30 min 8N. } 2cc undiluted juice saved for I.C.S. injection
 SN pipetted off. { remainder of undil juice combined in 1st extract
 15% ether added to both portions.
 kept overnight in ice box.
 Centrifgd. 20 min 8N. SN. pip. off, centrifgd. 45 min 8N. & cultured.

8-22-40

██████████

- Nasal plugs.

③ #6

- 1.) undiluted juice
- 2.) First saline extract

1.3cc I.C.
 9.5cc. I.P.

Rh 21



9-26 autopsy

viscera no tbc.

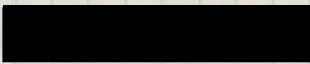
C.N.S. normal grossly

sections medulla cord L3 D1 C2

glycerine rest " "

Microscopic - 6 levels of cord and one medulla - negative

8-22-40



saliva

2cc I.C.

21cc I.P.

(4) #

Consisted of 27cc thin material. Centrifuged 20 min at 8N (Sediment saved for I.N. never given because of mix up in nasal plug sediment.) Supernatant etherized & left in cold overnight. Centrifuged 20 min at 2000 R. Supernatant appeared clear, injected as above. Culture no growth.

Rh 26.

107 ↓

6
5
4
3
2
1
100
99

1 2 3 4 5 6 7 8 9 10 15 20 25 30 35
1/2 2 3 4 5 10 15 20 26

↑
Sacrificed

9-26

autopsy

viscera no tbc.

CNS. normal grossly.

sections medulla cord L5 D1 C2

glycerine rest of " "

Microscopic - 6 levels of cord and one medulla - negative

8-22-40

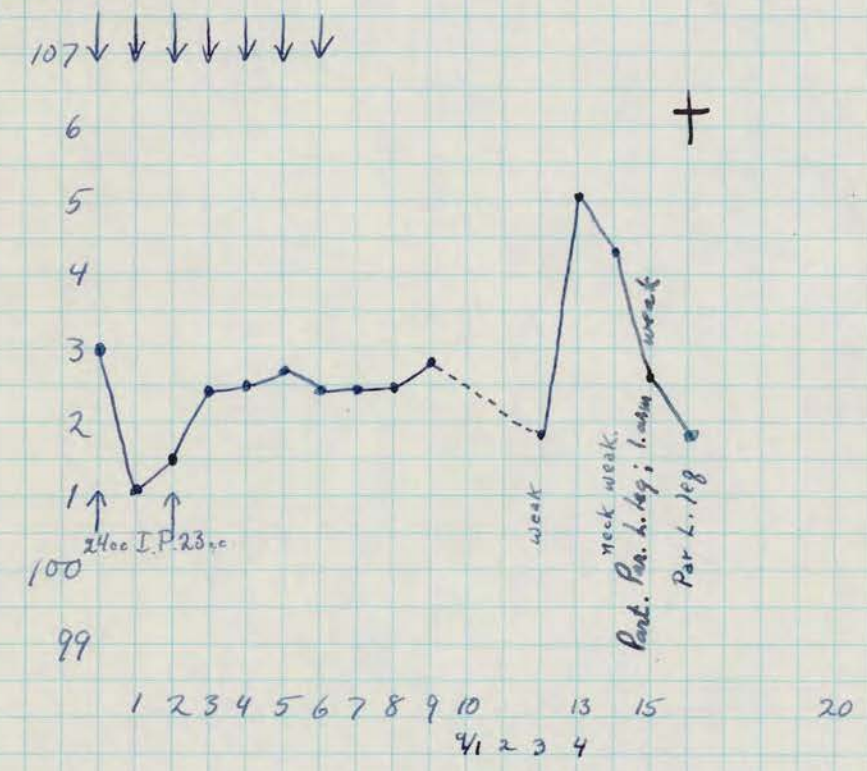
5 #8

Saline ENEMA RETURNS, consisting of 99cc. of brown liquid & a quantity of solid particles. after centrifugation 50cc of supernatant was etherized & 7.5cc ether, 25cc. was saved, & the sediment was saved for intranasal instillation. The etherized fraction was shaken for 10 mins, stored overnight in cold. Centrifuged twice the next day (25cc) & supernatant injected I.P. 24cc. ↑, sediment 1cc each nostril ↓

one 20min at 8N.
" 45min at 8N. →

CULTURE: sterile in 2 days.

Rh 39



9-7 Necropsy - Viscera normal; no adhesions of omentum to periton. Some mushrooming of cord.

1 lumbar, thoracic, cervical, medulla section; olfact. bulbs - also abdomin. sympath.

Microscopic - Medulla - Cuffing + focal necrosis and neuronophagia; mening. infiltration

Cervical cord - necrosis + neuronoph. of some nerve cells esp. on one side; cuffing; meningeal infiltr.

Thoracic - foc. neuronoph; mening. infiltr.

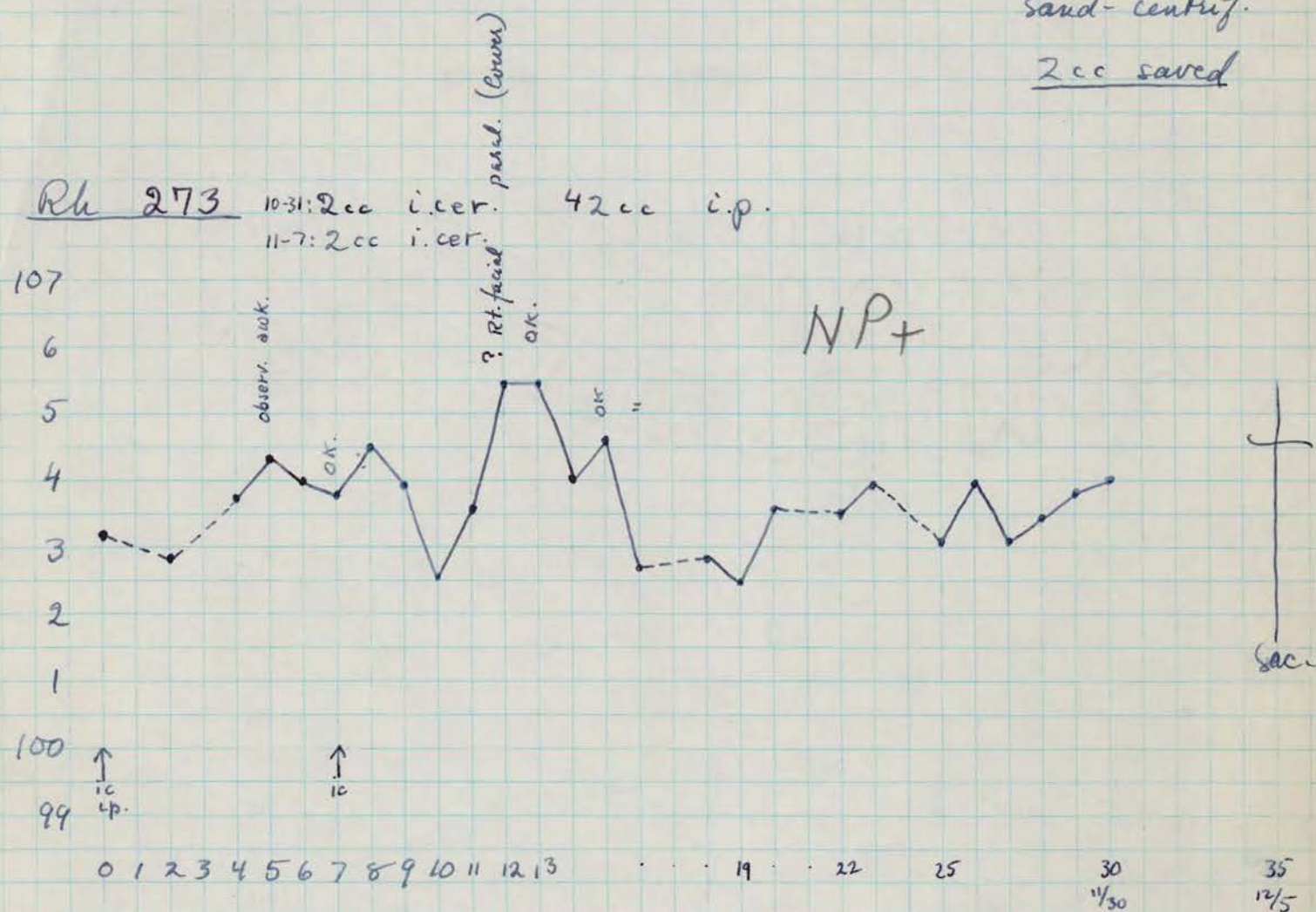
Lumbar - Destruction of most aut. horn cells on one side & some on other side; cuffing; mening. infiltr

Olfact. bulbs - negative

Abdom. Sympathic - one section - negative
other " - mononucle. focus in one of ganglia

10-31-40 Passage - Rh 39 cord + medulla 4.5 gm - 45 cc.
 distilled water.
 sand-centrif.
2 cc saved

Rh 273 10-31: 2 cc i.cer. 42 cc i.p.
 11-7: 2 cc i.cer.



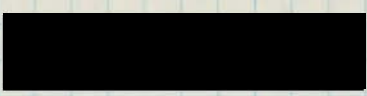
11-12. rt. lower facial paresis is not always apparent, but he pulls the left side of his mouth over fairly consistently. Eyelids OK. Has a v. high-pitched cry.

11-14 facial phenom. still present but not so marked. Lack of progress + non-appearance of other signs made me think the facial business is not significant.

12-5 Autopsy no the ca's neg gross. sections cord 6, med. glyc. "

~~Sac.~~

Microscopic - Slides of Rh 273 and 274 mixed up but both show ^{distinct} evidence of poliomyelitis - i degenerative root changes



22yr wh ♂

mechan. engineer student
at U. of C.
Res. Kemper Lane
Lincoln
has not been out of city
this summer.

adm. 9-11 to contag.

onset 9-9 headache
 9-10 difficulty swallowing, headache better.
 no fever (temp. taken)
 neck & backache, anorexia & constip.
 Vomited.
 9-11 adm. T 102. → 102.7.
 active to hyperactive reflexes
 Dysphagia only pos. finding, no other C.N. palsies
 palate & respirations OK. C.S.F. 165 cells 65% P 35% M
 tremor of jaw Pandy 2+.
 can swallow but i hesitation & effort.
 secretions accumulate in throat. Vomited.
 9-13 vomited. voice is hoarse practically absent.
 dysuria - responded to doryl (acetylcholine deriv)
 9-15 2 enemas, clear returns.
 9-16 voice improved, swallowing still difficult.

temp.
 102.3 → 100.5
 98.6 → 98
 normal
 thereafter.

	Phygs.
9-12	2
13	2
14	1
15	1

saliva collected from 9-12 to 9-15.

enema returns on 9-18-40

9-16-40

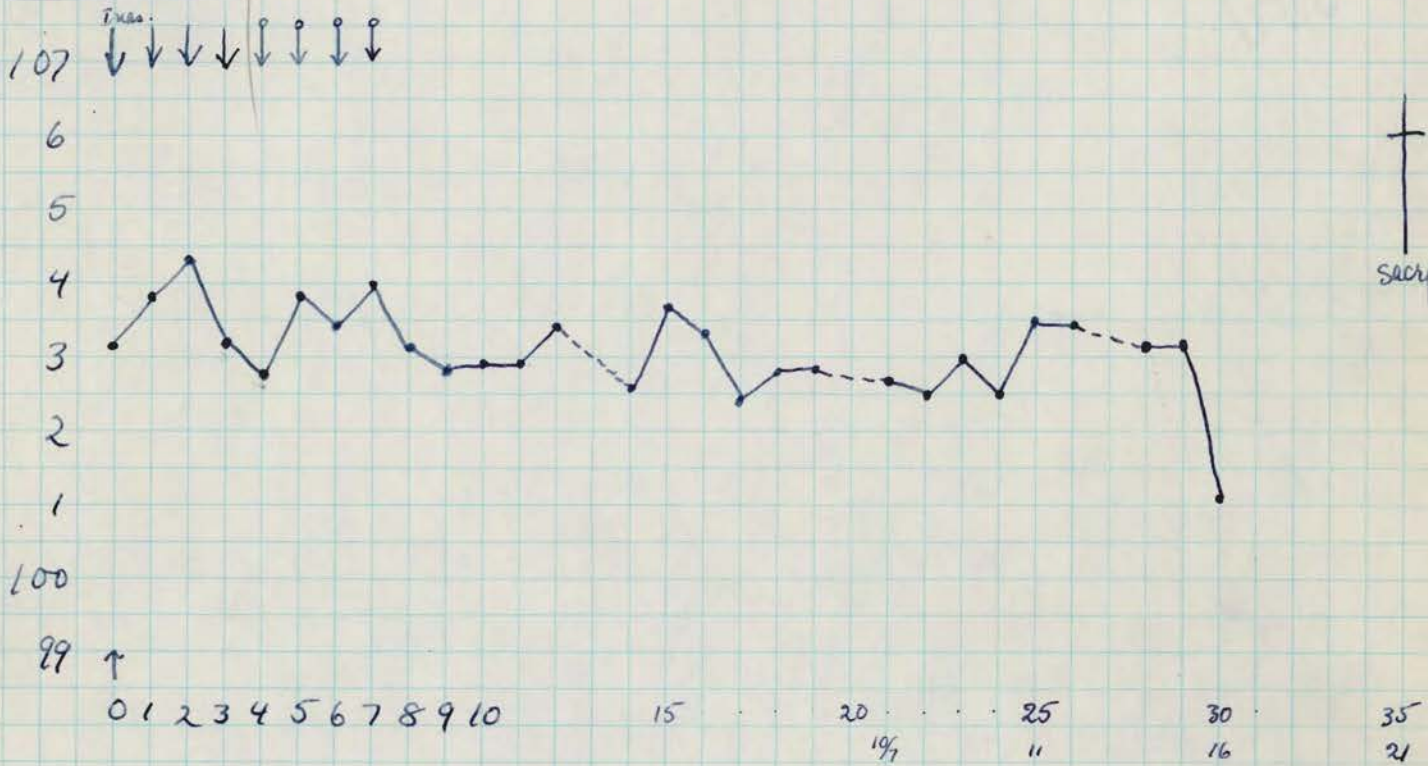


Saliva.

culture: 3 cols. nonhem. white.

i.cer. - 2 cc
l.p. - 6 cc
c.nas. 1 cc/nostril pipe cleaner (8x)

Rh 166



10-21 autopsy no hbc.
present in 50% - CNS. normal grossly.
sections: thalamus, choroid, medulla, cord (6) of fact bulbs (2)
glycerine rest of
disc 1-21

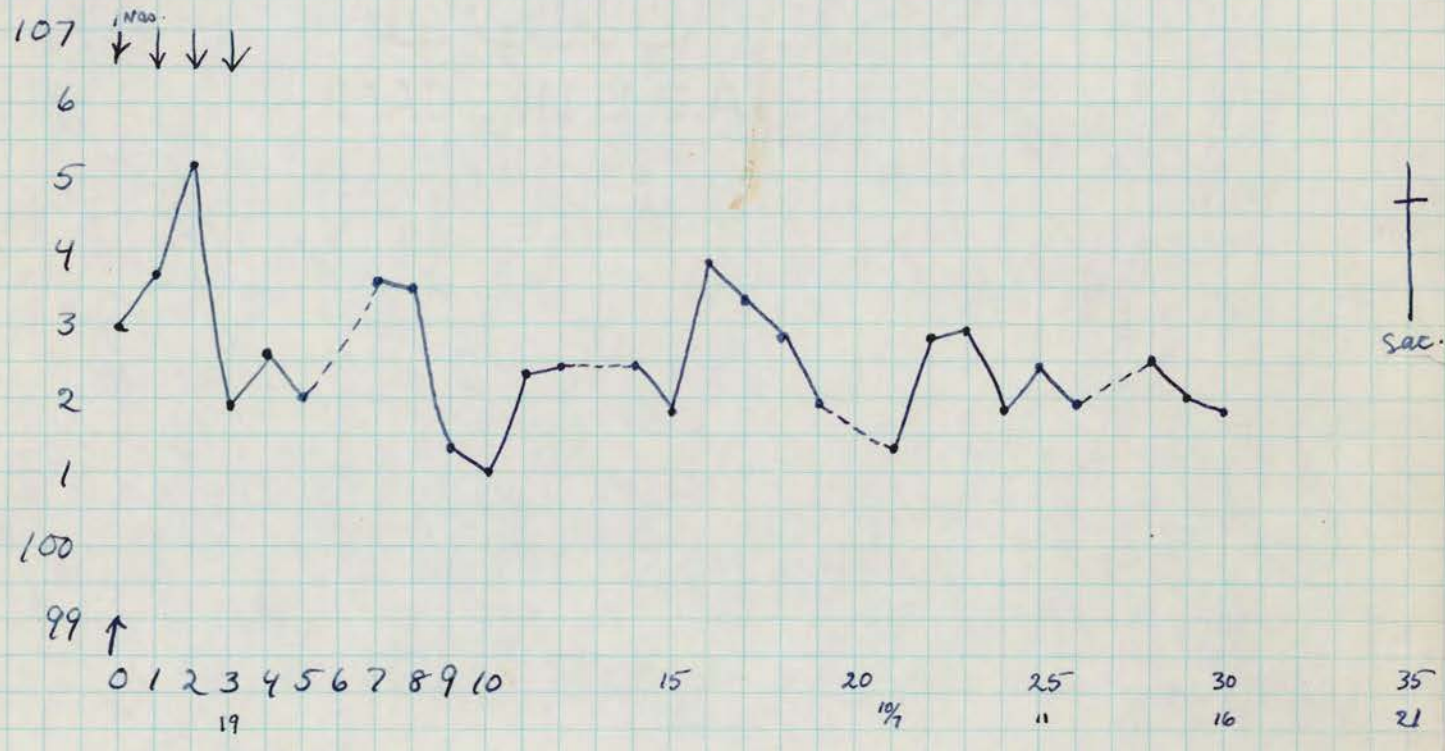
Microscopic - negative

7-16-40

Nasal plugs.

- 1.) 2 cc Undi? i. cer. culture no growth. hrs. 48
- 2.) 8 cc " +1st ext. i. p. culture " " "
- 3.) 1cc each most. sediment + 2nd ext. i. nas. (4x) pipe cleaner.

Rh 167



10-21 autopsy: no flc.
 C.N.S. norm. grossly.
 all present in 50% - sections: thal. choroid, medulla cord (6) bulbs (2)
 glycerim rest of
 disc 1-2

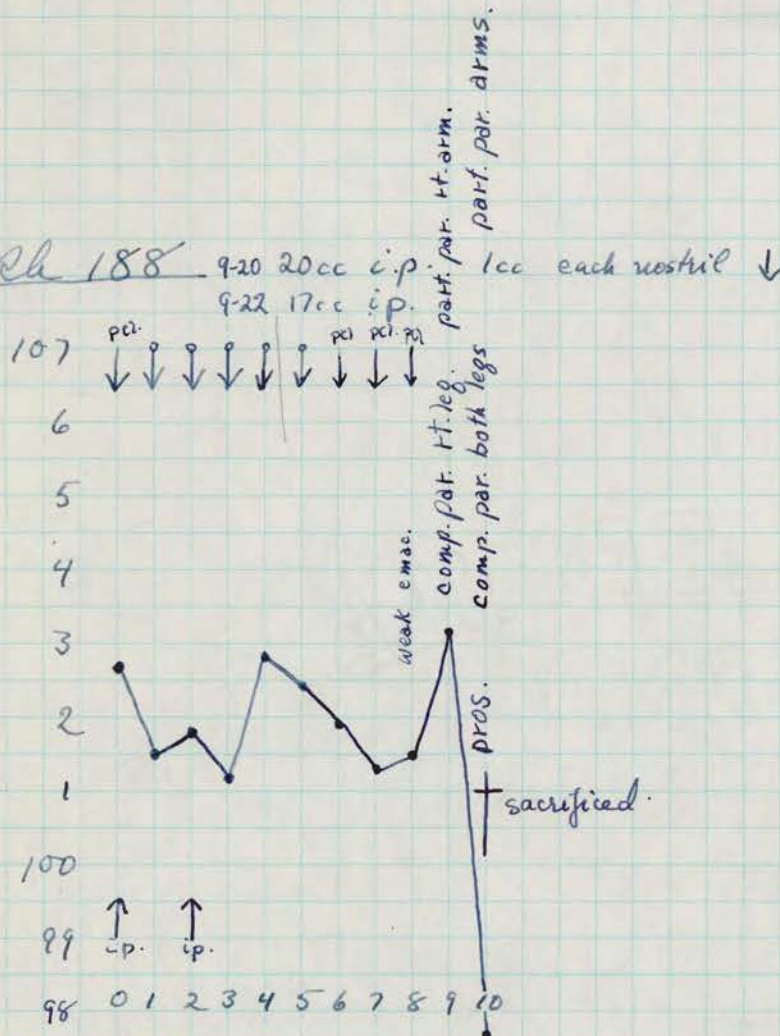
Microscopic - Negative

9-20-40

(Stool)

EMEMA returns. consisting of about a litre of liquid & small amount sediment. latter suspended in 2nd portion to be decanted. ground in mortar, centrfg. for 1/2 hr. at 8x. Srv pipetted off - 15th portion added shaken 10 min, stored in cold overnight. sediment saved for i. nasal. etherized portion centrfg twice. Culture: no growth 72 hours

Rh 188



9-30-40 10th day, autopsy

no flc.
CNS. normal grossly.
sections olfact. bulbs, medulla, cord
glycerine rest of

when trimmed - 2 bulbs present, 3 sections cord, 2 medulla (1 divided a large lump of medulla in half.)

Microscopic - both olfactory bulbs - negative

2 levels of medulla - only one focus of neuronophagia; slight cuffing

Thoracic - neg.

Cervical - acute necros. & neuronophagia of more than half of ant. h. cells - more marked on one side

Lumbar - as above but all ant. horn cells affected.

No mening. or periv. reaction

10-31-40

Passage

Rh 188

cord & medulla

2.36M - 23cc.
sand-centrif.
dist water

2cc saved.

Rh 272

107

6

5

4

3

2

1

100

99

↑
ic
up.

0 1 2 3 4 5 6 7 8 9 10

slow wvk. no local weakness.

part. par. rt. leg.

same both legs esp. rt.

part par. rt. leg. 2 arms

part par. flexors rt. hand, part.

part. par. rt. leg.

same + part. par. rt. leg.

part. left leg.

2cc i.cer.

17cc. ip.

TREM.

part. flexors

rt. hand,

part.

part. par. rt. leg.

sec.

11-12 autopsy

no Hic.

CNS grossly normal

present in 80.

sections cord 3, medulla, thal.

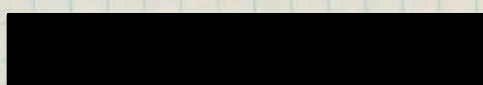
glycerine

Microscopic - Typical Polio

Lumbar - both side

Thoracic - neg

Cervical - unilateral lesion



28 yrs wh ♂ farmer
Millsboro, Ind.
S.E. corner "
14 mi from O. River.

adm. Contag 9-6-40

onset 8-27 (10 days prev.) chills, fever.
 8-28 vomiting, sl. headache.
 ↓ fever cont'd.
 9-1 ache in muscles of back, shoulders, arms & hips.
 stiff neck.
 9-2 weakness arms & hands.
 9-4 " legs.
 9-5 difficulty in voiding.
 9-7 P.E. T 101.8 → 99.

reflexes positive rt. triceps & A.G. rest neg.
muscle power weak arm adductors.
 1 plus in extensors rt. leg
 1 plus plant. flex rt. foot
Rest 0.

CSF. (9-6) Pandy 1+ 94 Lym.

Temp.
 9-8 98.7 → 99.1
 9-9 98.1 → 99.

	<u>plugs.</u>	<u>saliva</u>
9-7	1	9-7 → 9-11
9-8	2	
9-9	2	
9-10	1	

enema returns. on 9-12.

9-12-40

Nasal plugs

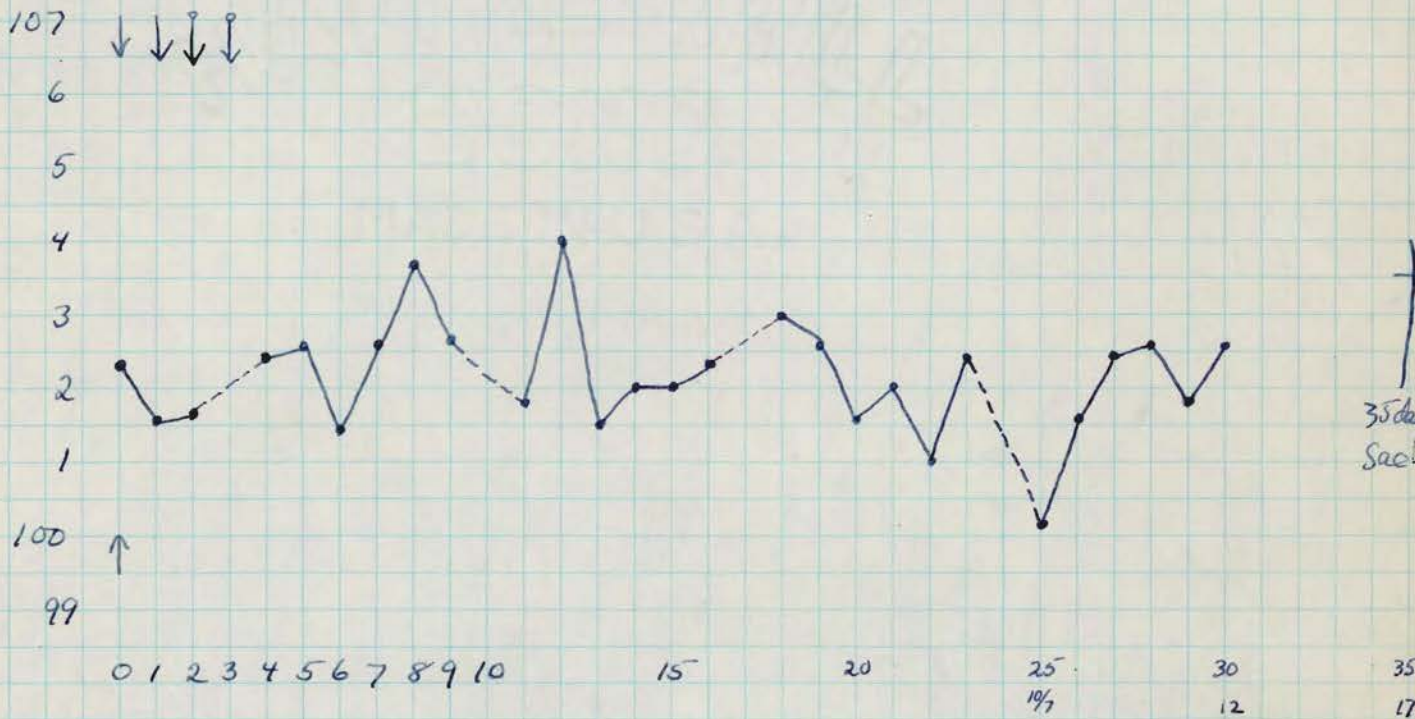
- 1.) undil. juice
- 2.) 1st extract 5cc saline
- 3.) 2nd extract 10cc saline

2cc I. cer.
i.p.
INas.

Rh 164

1.8cc I. cer undil. juice
 7.0cc l.p. " " combined = 5cc. 1st extract.
 1.0cc (ca) l. nas. 2nd extract combined = sediments from centrifugations
 = pipe cleaner exc. ↓

4% hr. culture
 sterile.
 2 col. 1st. immocyt.

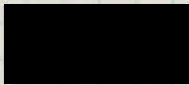


16-17. autopsy :
 all present in 80%

no Hrc.
 CNS. grossly normal
 sections cord G, medulla, thal. olfact bulbs.
 choroid (2)
 glycerine : usual disc 1-21

Microscopic Examination — Negative

9-12-40



- Saliva

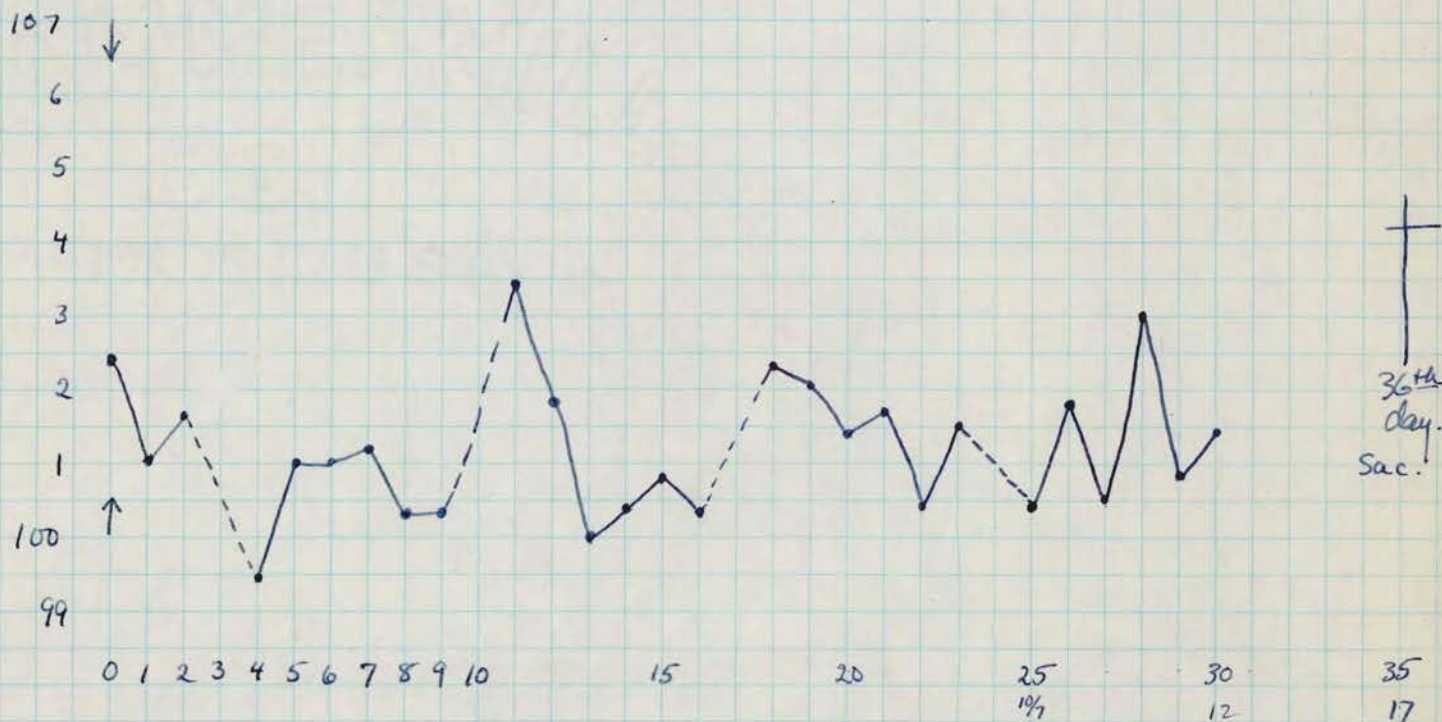
(32)

centrifuged 1 1/2 hr. at 8N
SN. pipetted off - 15% ether, shaken
overnight in cold.
2 centrifugations

2cc. L.C.C.R.
4.2cc. L.P.
1cc. in each test. L. nas. ↓

Culture: 48 hrs. 1 wh. col. hem.

Rh 163



10-18 autopsy:
present in 80%

no hb. CNS grossly normal.
sections 3/4 thal. in 2 pieces. choroid medulla, cord 6.
glycerin usual.

Microscopic — negative

few cells in mening. vessel of medulla

9-13-40

stool-enema returns.

4 1/2 oz total.

3 1/2 oz fairly solid.

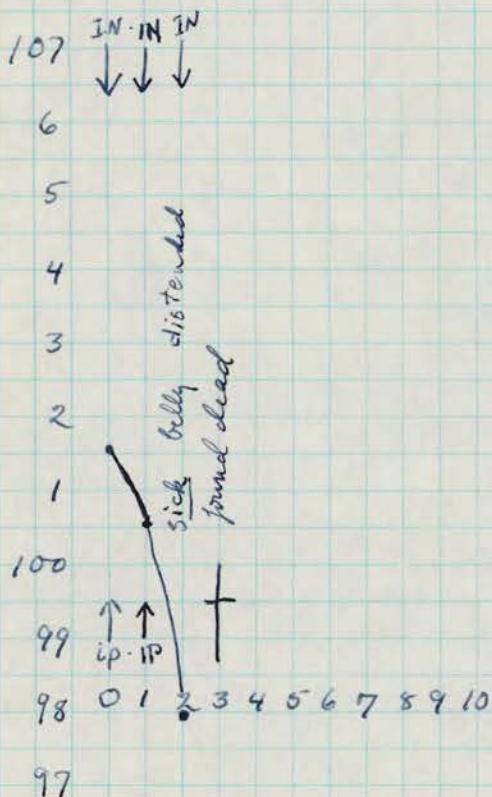
about half the formed material was suspended in all the liquid; as this was too thick, 1 oz dist. water was added. Cent 8V 1/2 hr. sv. measured 75cc. 15% ether added. overnight in cold. 2cents.

1st lot 9-13 culture. no growth 48 hours.

2nd lot 9-14 culture. 2 gray non hem. cols.

9-13; 9:41 } 20cc. i.p.
 } ↓ = 1.0cc in each nostril.

Rh 165



9-16 autopsy

very extensive fibrinous peritonitis - beginning adhesions omentum to intestines. No perforation thru gut seen; very little fluid in peritoneal cavity rest of viscera normal - no huc.

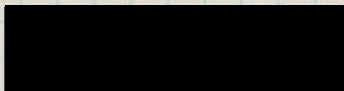
19 yrs. wh. ♀

Middle town, O.

(22)

onset 8-27 violent headache
8-28 pain in chest
8-29 vomiting, continued headache, constipated
stiff neck & back, backache.
8-30 shortness of breath & cyanosis, weakness arms & legs
8-31 paral. extrem. failure of resp.
Adm. to Contag. placed in respirator immedi.
T 102.1 → 104 Nasal plug
9-1 T 101.8 → 104 1
9-2 103.5 → 100.7 2
9-3 101.6 → 100.5 2
9-4 99.8 → 100.4 1 cath. urine + excreta
5 particles.
P.E. 9-1 Speaks ok. some dysphagia when first in respirator
but this cleared in 24 hrs. & probably does not
represent bulbar involvement.
Bladder paralyzed unable to void for previous 24 hrs.
compl. paral. extrem. can move toes sl.
9-3 bladder distended.

9-6-40



Nasal plugs.

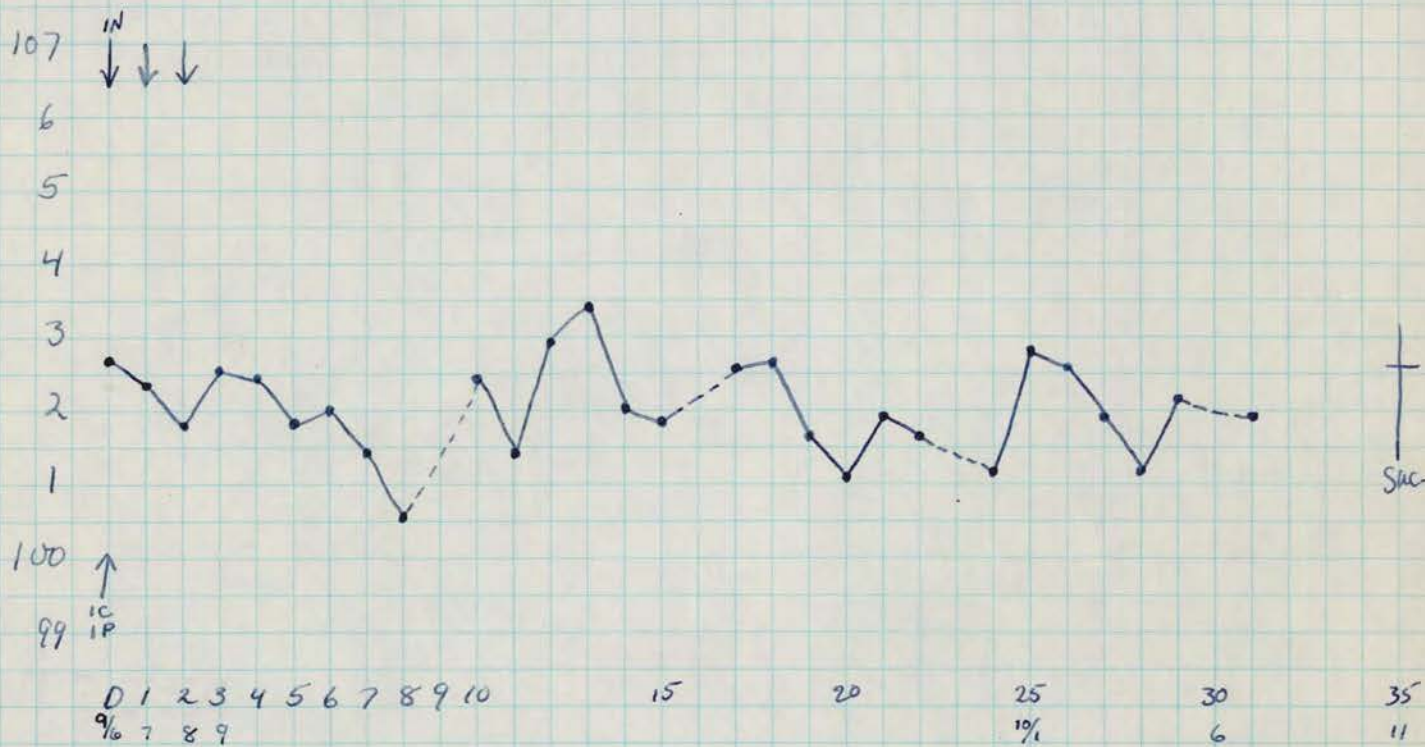
- 1.) undil. juice 2cc I.C.
- 2.) 1st ext. combined 10cc IP.
- 3.) 2nd ext. 1cc each nostril

accorded same treatment as on p 6. except that 1 centrifug. only, as under paragraph

culture

undil: 5 hemol. cols.
combined 8 " " " 1 non hem.

Rh. 133.



10-11 autopsy

no flc.
CNS. ok.
sections: usual 6 cord, medulla, choroid, thalamus.
glycerine " " "

Microscopic - medulla and 6 levels of spinal cord - negative
Thalamic region - few infiltr. cells in 3rd vent. choroid
lateral ventric. choroid - negative

9-6-40



Urine catheterized. about 150 c.c.
culture 4 bend. cols 4 wh. non lam.

9-6	untreated urine	32 cc	I.P.
9-7	" "	40 cc.	"
9-8	" "	50 cc.	"

Rh. 134



10-11 autopsy

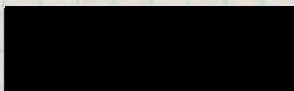
no tbc.
 CNS normal
 sections usual 6 of cord, thalamus, choroid medulla.
 glycerine choroid, cord, + medulla.

Microscopic

Three thalamic ^{sq.} - slight cell. infiltr. in choroid of 3rd ventricle
 cell. infiltration of two basal meningeal vessels

Two other regions of choroid, medulla, and 6 levels of
 spinal cord - negative

9-10-40



stool + enema returns 60cc.

culture 48 hrs. 1 hem. col. 7 green cols.

i.p. - 19cc. and 25cc.
↓ i.nas. - 1cc. each nostril - pipe cleaner asc ↓ (8x)



10-16 autopsy :
all present in 80%.

no hbc.
CNS. normal grossly.
sections : olfact bulbs², thal, choroid², medulla
cord (6)
glycerine " medulla "

Microscopic - Both olfactory bulbs, thalamic region, 5 levels of cord
- negative

One level of cord - few mononuc. cells in
meningeal fissure near

Medulla - few cells ~~near~~ at one side of
meningeal vessel

~~Stool~~

Rh 143 ~~18cc~~ i.p.

12 yr. wh. ♂

onset 8-31 headache, pain in rt. arm.
 9-1 fever, vomiting, restlessness.
 9-2 stiff neck. L.P. & CSF reportedly neg.
 9-3 adm. to contag.
 PE. 99% paral. rt. deltoid.
 weakness of all other muscles upper extrem.
 & almost compl. intercostal paral.
 9-3 to 9-7 CSF. 55 cells, mononuc. Protein 33 mgm %.
 course uneventful. Temp 101 on 9-3, thereafter
 below 100 until 9-7.
 9-8 irrational, dysphagia, periodic cyanosis.
 adm to children's hosp. for respirator.
 9-8 T 101.2 → 101.6 PE. rapid resp., rapid pulse, weak. mod. cyanosis
 irrational
 9-9 T 100.4 → 100 improved.

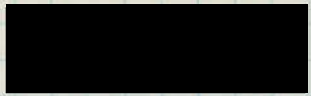
nasal plugs

9-4	1
9-5	2
9-6	1
9-7	2

saliva about 8.5 c.c. stringy & mucoid gob.

stool . 9-8

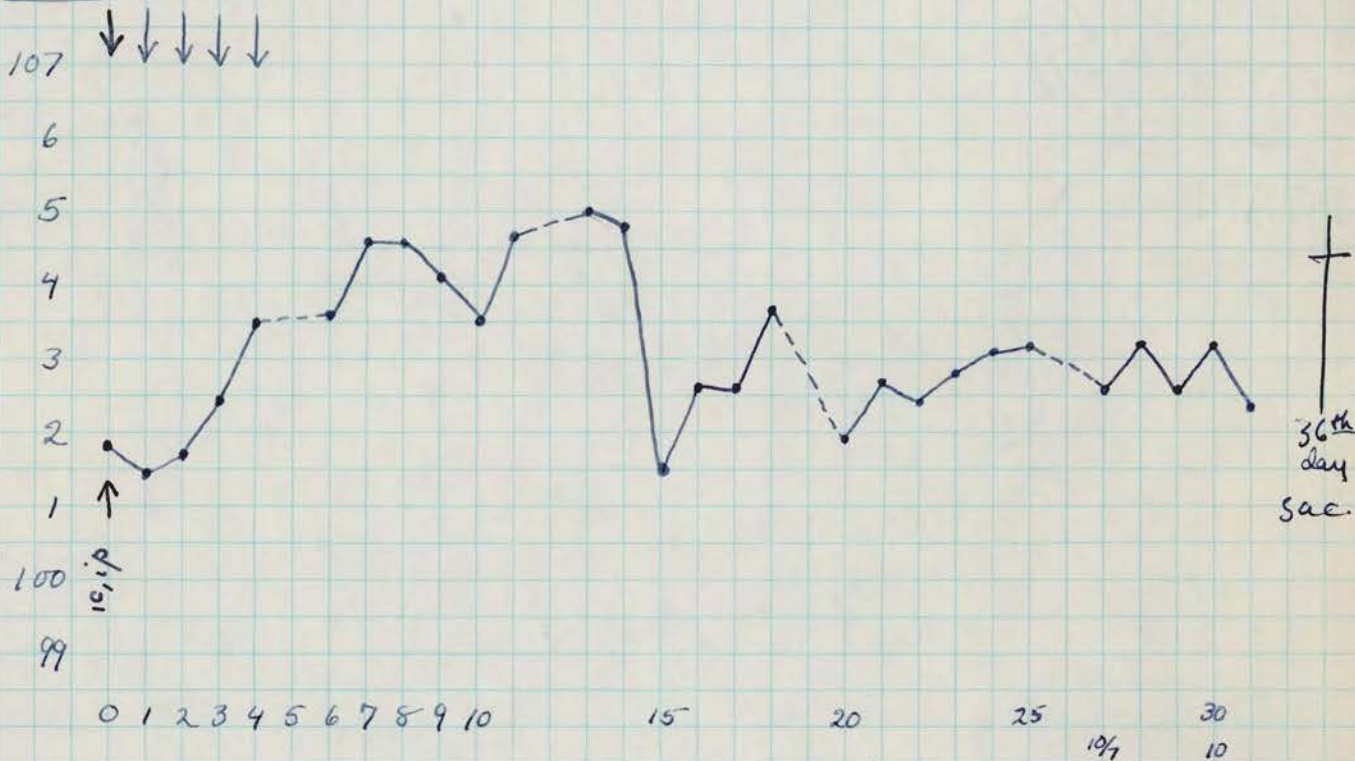
9-10-40



- Nasal plugs 1.) 3.5 cc thick ^{undil. juice} ~~extract~~
- 2.) 10 cc distilled water
- i. cer. - 2 cc. 3.) 10 cc. " "
- i. p. - 9.5 cc
- ↓ c. nas. - 1 cc. each nostril + pipe cleaner

culture: no growth (2 plates) 48 hr

Plh 144



10-16 autopsy: sections. (all present in 80%)
 olfact. bulbs, thal, choroid(2) medulla cord(6)
 glycerine. cord + medulla + "
 no thc.
 CNS normal grossly.

Microscopic - negative
 Cell. infiltr. in choroid - hypothal. region.

9-10-40



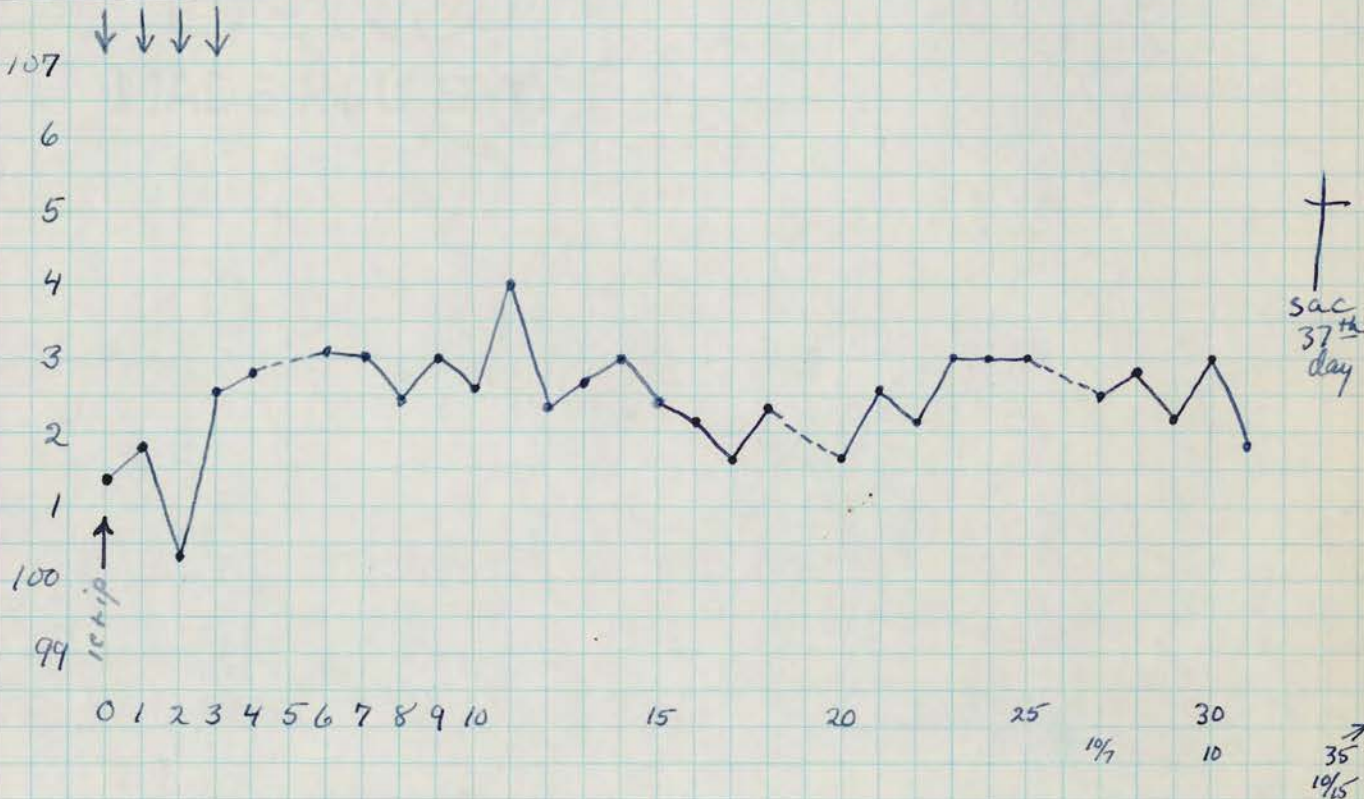
saliva 8.5cc.

(28)

culture no growth 48 hrs.

i. cer. - 2 cc.
i. p. - 5.5 cc.
↓ i. nos. - 1 cc. each nostril - pipe cleaner

Rh 145



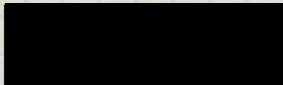
10-17 autopsy:
all present in 80%.

no tbc.
CNS normal grossly.
sections usual + olfact bulbs (2) cord 6
glycerine rest of " medulla.

Microscopic - negative

le. cell. infiltr. - mening. vess. of medulla, of
ventr. hypoth. + choroid of
lat. ventricles.

9-10-40



stool.

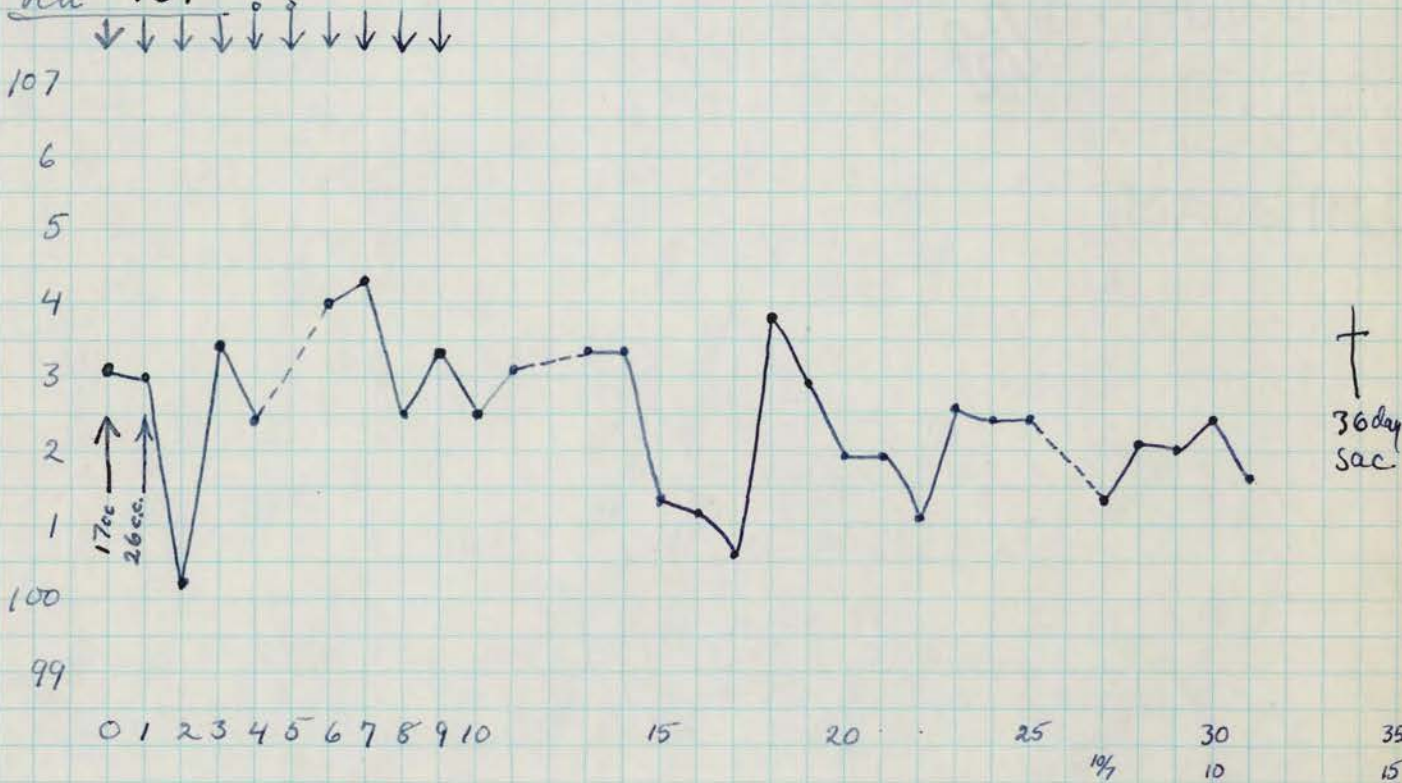
7.6 gm. in 60cc distilled water

(29)

culture: no growth 24 hrs.
1 gray-ish non-hem col. 48 hrs

i.p. - 17cc. and 26cc.
↓ c.n.s. - 1cc. in each nostril - pipe cleaner vac ↓

Rh 151



10-16 autopsy.

all present in 80%

no flc.

cns norm. grossly.

sections of bulb(1) thal, choroid. medulla, cord(6)
glycerine rest of " " "

Microscopic - all negative

9 yrs. wh. ♂. (?) Morgantown Md. Morgan county

cc. weakness left leg + arm, fever, anorexia.

Pt. onset. 7-19 fever 102.5

7-20 }
21 } Sleepy + "weak"

P.H. (cyanosis since 1 yr.)
cong. H.D.

22 }
23 } first noted paralysis of "left ankle + toes" & weakness left arm. Anorexia, occ. "stabbing pains in head"

Highest Temp

7-24. 100.2
25 101.8
26 100.8
27 99.8 101.1
28 100.5
29 99 → 104 → 107.6 → 106.

7-24 adm to S.W.R. Hospital.

P.E. T. 100.2. Does not use left arm + leg well. Hypoactive left K.G., other reflexes equal & "normal" on the two sides. (Congen heart disease) (RBC 5.5 mill HB 16 gms.)

7-25 C.S.F. total cells 37 no differential. Pandy 0 tot prot. 54, sug. 74.

7-27 left arm + both legs in casts. Rt. arm OK. 3 PM. cotton plug inserted in left nostril. Bottle left for saliva.

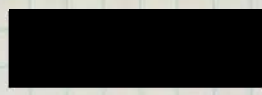
7-28 10 A " " removed from left, fresh one into right
6 P " " " " right, " " left.
Thought this pt. shows a left facial palsy peripheral type. ? Rt. 3rd nerve - ie. ? ptosis on st. pupils unequal st. being dilated. & internal rectus on the right doesn't function very well.

7-29. Pt. has definite facial palsy, left. Had a convulsion at 9 AM. Casting 2 mins. at about 11 AM pt. started to convulse again, beginning w. v. rapid clonic movements rt. leg, & head turned to st. Lt. arm rigidly extended. Soon the boy began to have most marked hyperpnea & got even more cyanotic than usual. The overbreathing persisted as did the fit for over 10 mins & no immed relief from 2 yrs. sod. luminal + IV. glucose.

#104 after convulsion Pt. had another gen'ized fit during the PM. & died at 6³⁰ PM. is respiratory failure. The nasal plugged inserted at 10 AM. was removed after death. Particles of feces were removed manually & stored in ice box.

Post mortem exam. was refused.

8-2-40



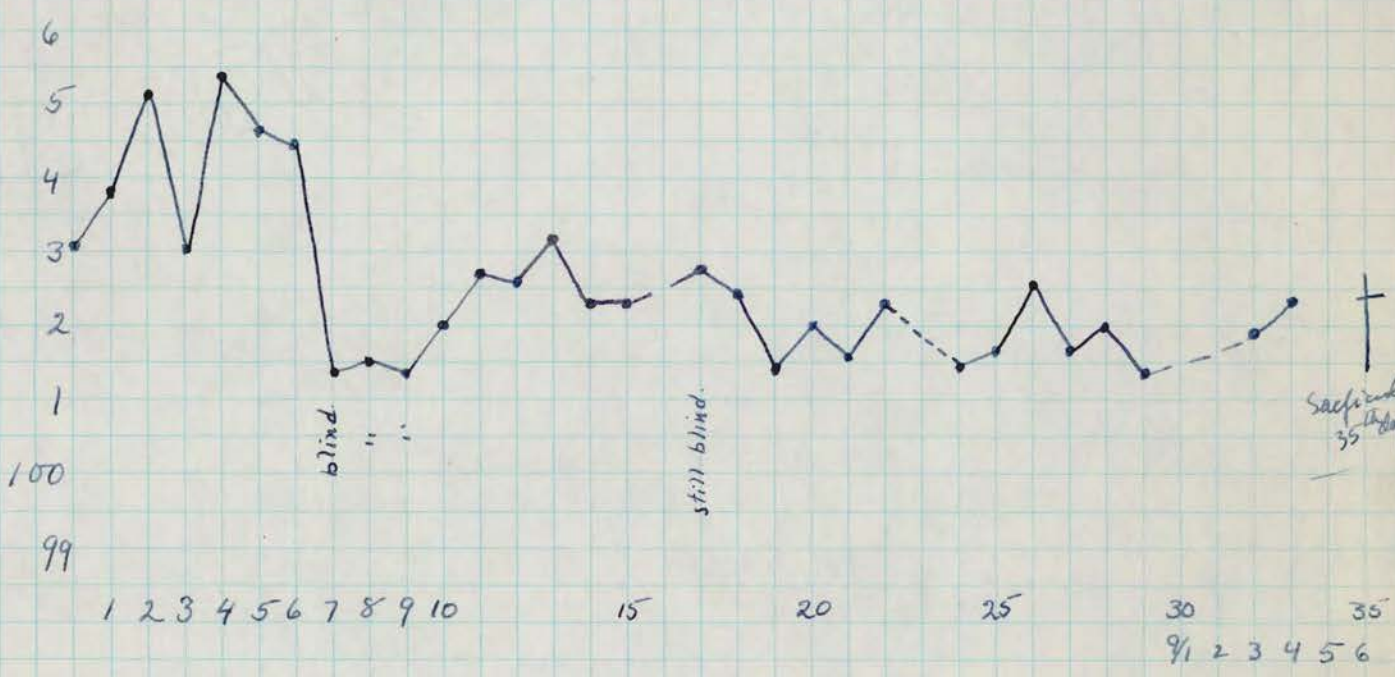
- Nasal plugs 1.) undiluted juice
2.) extract
3.) " in each nost. bd.

1.2cc IC
3.8cc IP.
1.0cc = ↓
(4x)

Rh. 91

1.9cc Extract IC.

107k ↓↓↓



9-6-40

autopsy

viscera

no tbc.

C.N.S.

no gross lesions

sections

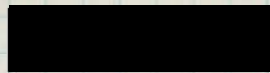
mid brain thru colliculi, olfact bulbs, medulla, cord (4)

glycerine

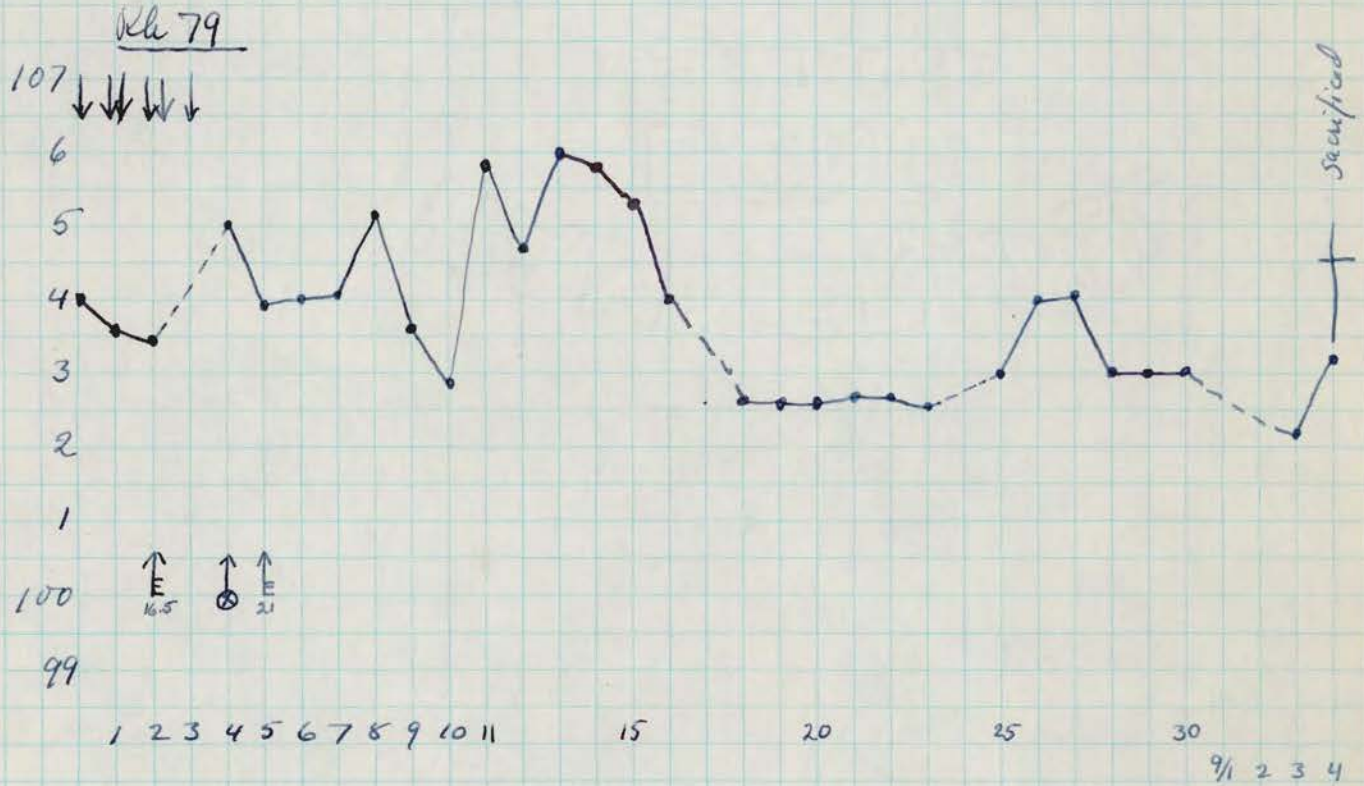
rest of cord & medulla.

Microscopic - 2 levels of midbrain, both olfactory bulbs, medulla, + 4 of cord - negative

-8-1-40

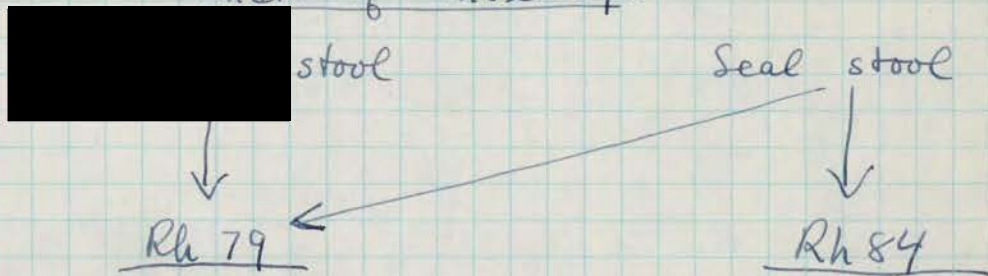


8 AM. very dry taken up in 50cc water (36)
Stool 1.) Untreated 1cc in each nostril: ↓ (6x)
2.) Etherized 16.5cc I.P. on 8-3-40 (2nd) = ↑



8-5-40 ⊗ By mistake was given 15cc. etherized stool suspension of patient SEAL, intended for Rh 84

chart of mix-up.

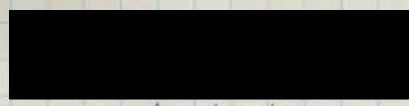


Therefore, if both Rh 79 & 84 develop polio, we won't know.
 if neither " " " " all is well.
 " Rh 84 & not 79 " " " " "
 " Rh 79 " " 84 " " " "

8-6-40 21cc. etherized stool I.P.

9-4-40 Autopsy viscera, CNS normal grossly.
Sections medulla & cord (C1 T1 L1)
glycerine remainder medulla & cord

Microscopic - Both olfactory bulbs, medullary 3 levels of cord - negative



10 yr. ♀ 139 W. 66th St. Carthage, Cincinnati O.

cc. inability use rt. leg.

onset 8-22 headache, fever, anorexia
stiff neck, tender back.
abdom. pain.

P.H. swimming a lot in public pools.
Cong. Piles treated for 3 mos.
Kalin H+ here.

8-23 constipated.
8-24 could not use rt. leg + some weakness left leg.
unable to void since midnight.
(frequent nose bleeds since onset)
8-25 adm. to Contag.

P.E. T 100.2 → 102.1
tonsils enlarged + boggy, cervical Lym. nodes +
neck not stiff. Bladder up to umbilicus.
Rt. leg. comp. paral.
reflexes normal exc. absent rt. Kf. + Ag.

C.S.F. ground glass, Pandy + 247 cells 210 lym 37 P.

8-26 T 100.4 → 100.7
8-27 100.5
8-28 99.7 voids O.K.

Saliva: collection started 8-26 P.M. terminated 8-29 P.M.

Urine: catheterized spec. obtained 10 AM 8-30.

Stool: large amount solid matter + enema returns 8-30 2 P.M.

8-31-40



Saliva

2cc IC.

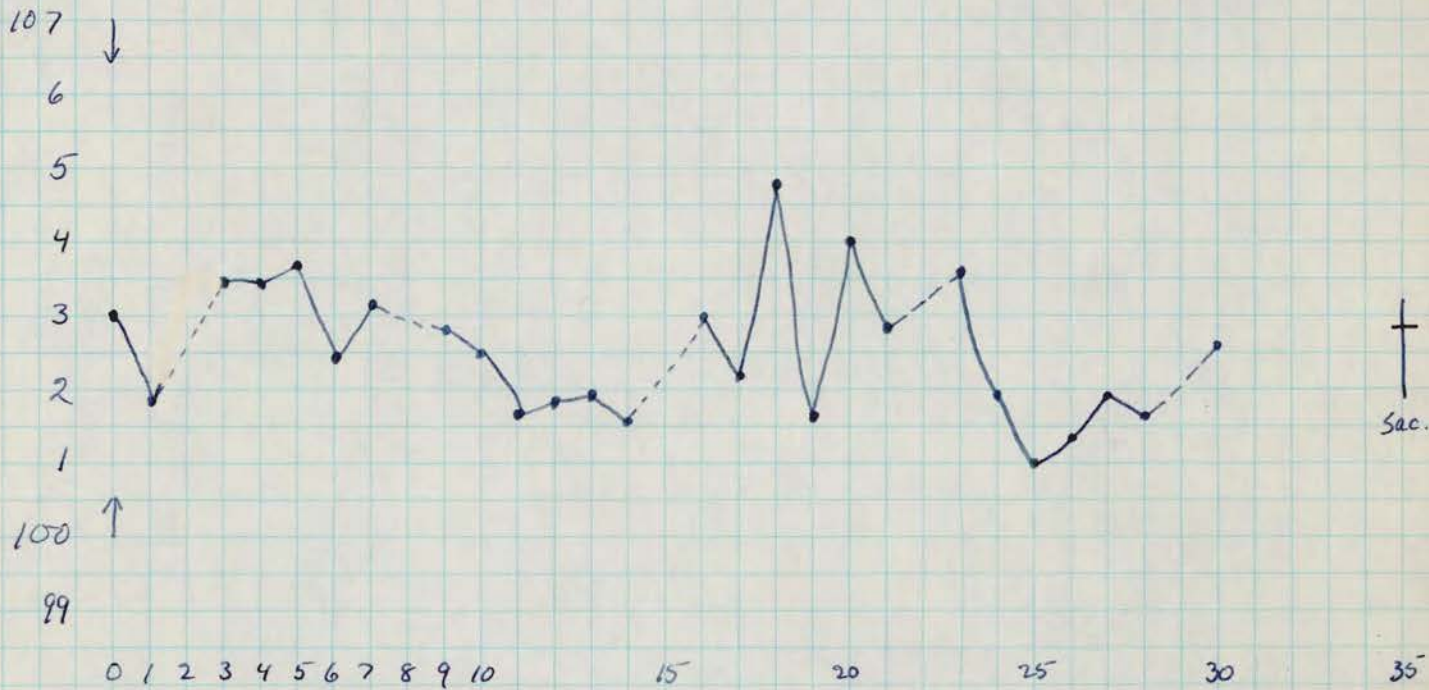
39cc I.P.

1cc in each nostril.

(16)

culture: heavy growth wh. hemol. cols.

Rh 23



10-5. autopsy:

present after wash

viscera: no tbc. C.V.S. normal grossly.

sections: thalamus, hypothal. choroid (2) olfact bulb (1).
medulla cord L3 T1 C2.

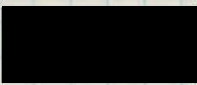
glycerine: choroid, medulla, cord.

Microscopic - One olf. bulb - 6 levels of cord - choroid in hypothalamus
- negative

!!! Medulla - heavy infiltr. of one meningeal vessel and sl. of another.

Choroid - small foc. of mon. cells in section

8-31-40



- stool *E. coli* culture

3 cols green strep. 48 hrs.
9 cols hem. staph.

(17) ~~128~~

8-31 20 cc I.P.

1 cc in each nostril.

9-1 23 cc I.P.

" " " "

Rh 33



10-5 autopsy

no hbc. c.n.s. normal grossly. thalamus, hypothal., choroid, medulla cord & olfact. bulbs.

present after wash x in 80% alcohol.

glycerine: (thalamus?) choroid, medulla & cord

Microscopic - Olfactory bulbs, medulla, 6 levels of cord - negative

Sections through choroid plexus show few foci of slight mononuclear infiltration

8-31-40

- Urine, catheterized, untreated

(18) ~~138~~

48hr. culture : 9 wh. hemol. cols.
3 wh non-hem cols.

8-31	:	30 cc.	I.P.
9-1	:	30 cc	I.P.
9-2	:	40 cc.	I.P.
9-4	:	50 cc.	I.P.

Rh 38



10-5 autopsy
present
after washing

no Hbc.
CNS. normal grossly
sections. thalamus & hypothal, choroid (5) medulla cord ^{L3}_{T1}
glycerine " 10x2 " " _{C2}

Microscopic - All sections listed above - negative

10 yrs ♀ Norwood, O. (6/17)

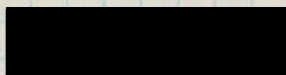
History of visit to Portsmouth, O.

onset 8-14 headache, fever.
8-15 vomiting, pain in back of neck + back
fever, headache
8-16 slurred speech, difficulty in swallowing
8-17 physical signs referable chiefly to swallow + voice.
diminished sensation over face arms + chest.
C.S.F. 90 cells (69 mono 11 poly)

8-18 saliva collection begun T. 102.5 marked nasal voice.
5PM. rt. nostril plugged. says "milky mutton"

8-19 2 plugs
8-20 2 plugs.
8-21 plug inserted in AM. removed in P.M.
Saline enema - returns liquid.

8-24-40

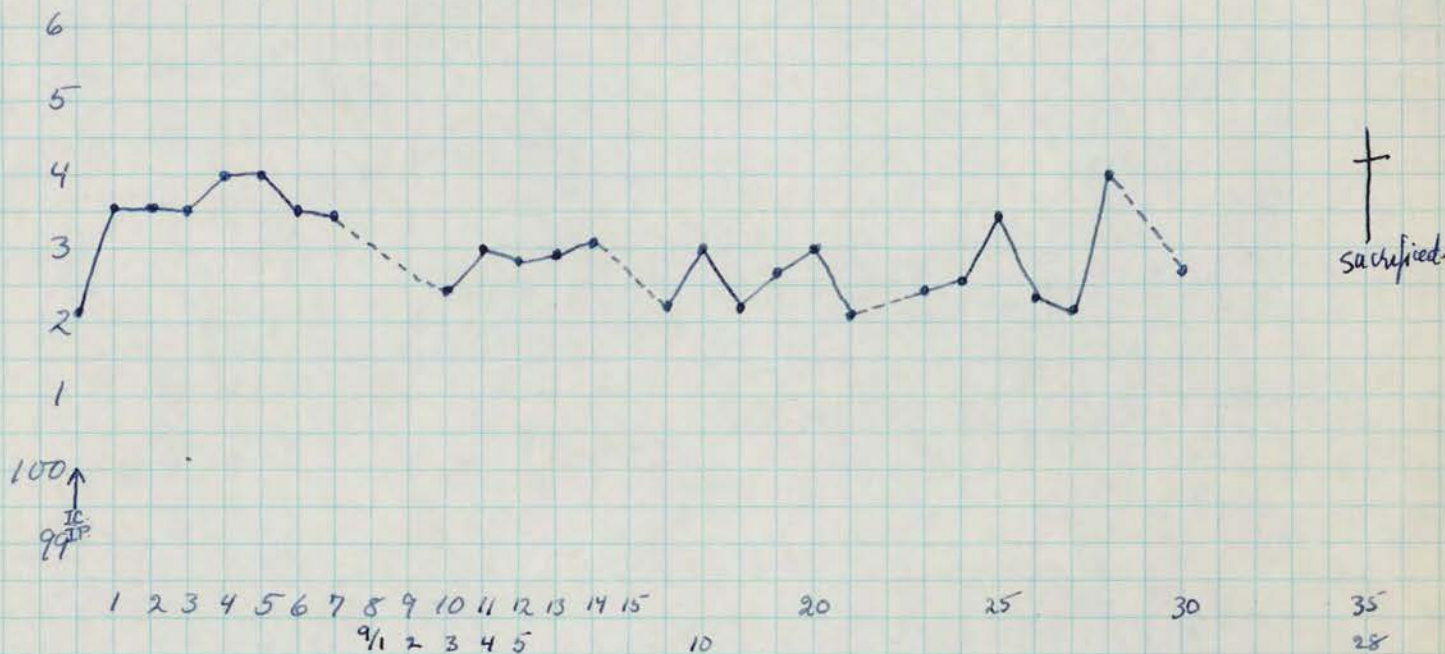


Nasal plugs (prepared in same manner as described on p. 6.)

- 1.) undil. juice 2cc I.C.
- 2.) 1st extract combined + undil. juice 8cc I.P.
- 3.) 2nd extract " " Sediments 1cc each nostril.

Rh 16.

IN. ↓ ↓ ↓
107 ↓ ↓ ↓



9-28 autopsy

viscera: no tbc

C.N.S. normal grossly.

sections medulla olfact. bulbs cord L3 D1 C2

glycerine rest of medulla & "

Microscopic - 6 levels of cord, one of medulla, both olfactory bulbs - negative

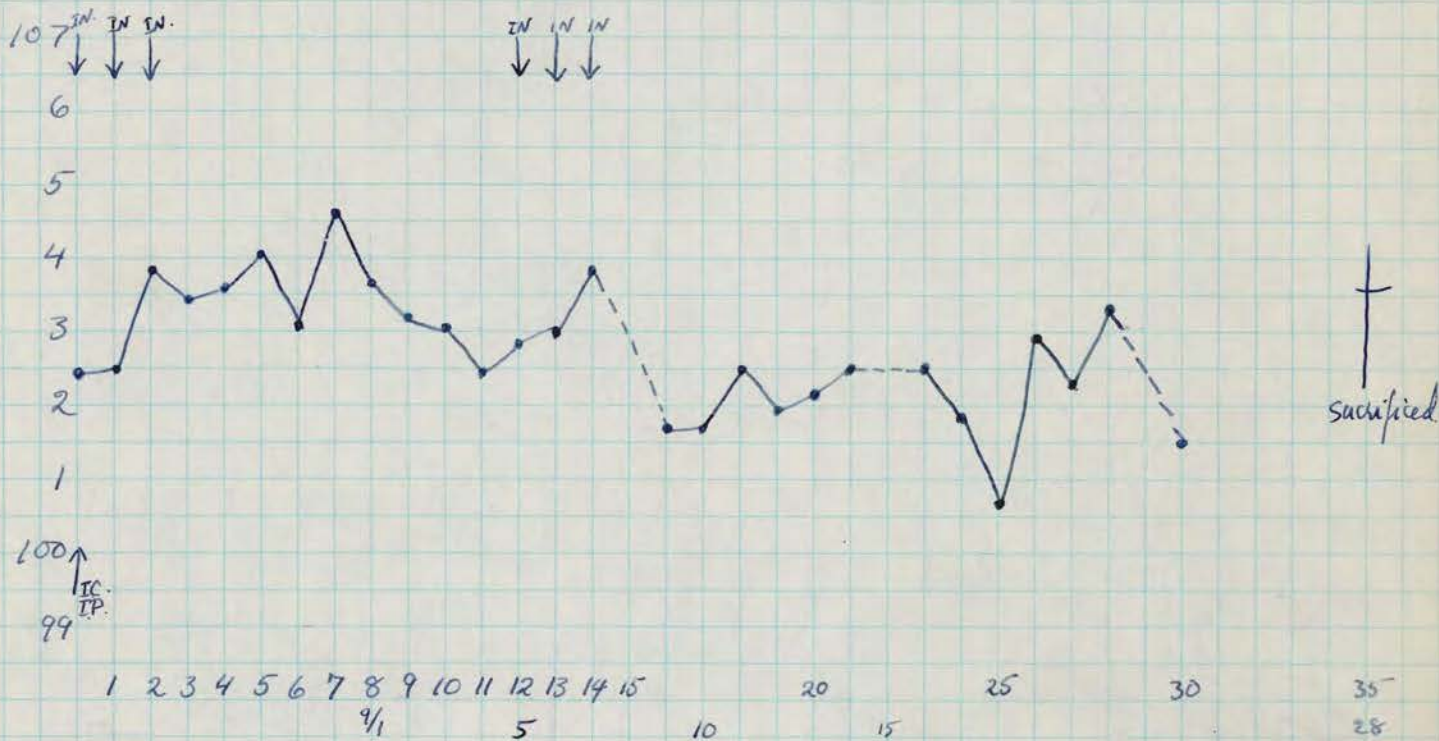
8-24-40

saliva 2cc I.C. 34cc I.P. 1.0cc in each nostril (2cc saved)

Saliva consisted of about 30% of very thick tenacious stringy mucilaginous material mixed with what appeared to be food particles. This was 1st filtered thru a layer of gauze & then centrifuged first for 20 min then 1 hour at 2000 rev. About 10cc of fairly clear supernatant was pipetted off before the mucilaginous sediment geysered up. Both this sn. & the remainder were etherized in 15% ether, refrigerated over night, centfgd twice, cultured & injected. 2cc of the sn. mentioned above was injected i.cer., the rest of sn was combined in 2nd fraction & injected i.p.

Rh 14

The sediment from the centrifugations before ether was instilled I.N.



9-28 autopsy

viscera no flc.

CNS. normal grossly.

sections of act. bulbs medulla cord L3 D1 C2

glycerine rest of

Microscopic

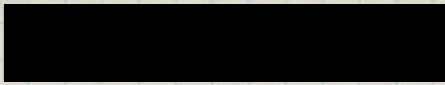
Olfactory bulbs - perivascular n. cell infiltr. of one vessel in glom. layer of one bulb

Medulla - heavy cuffing of several vessels in dorsal asp. of medulla near choroid; slight cuffing of several vessels in substance & two glial foci

1 level of lumbar cord - 1 focus of cell. infiltr. in one post. horn; adjacent capillaries - cuffing single layer of cells.

5 other levels of cord - negative

- 8-26-40



(20gm) Stool suspended in enema returns (100cc)

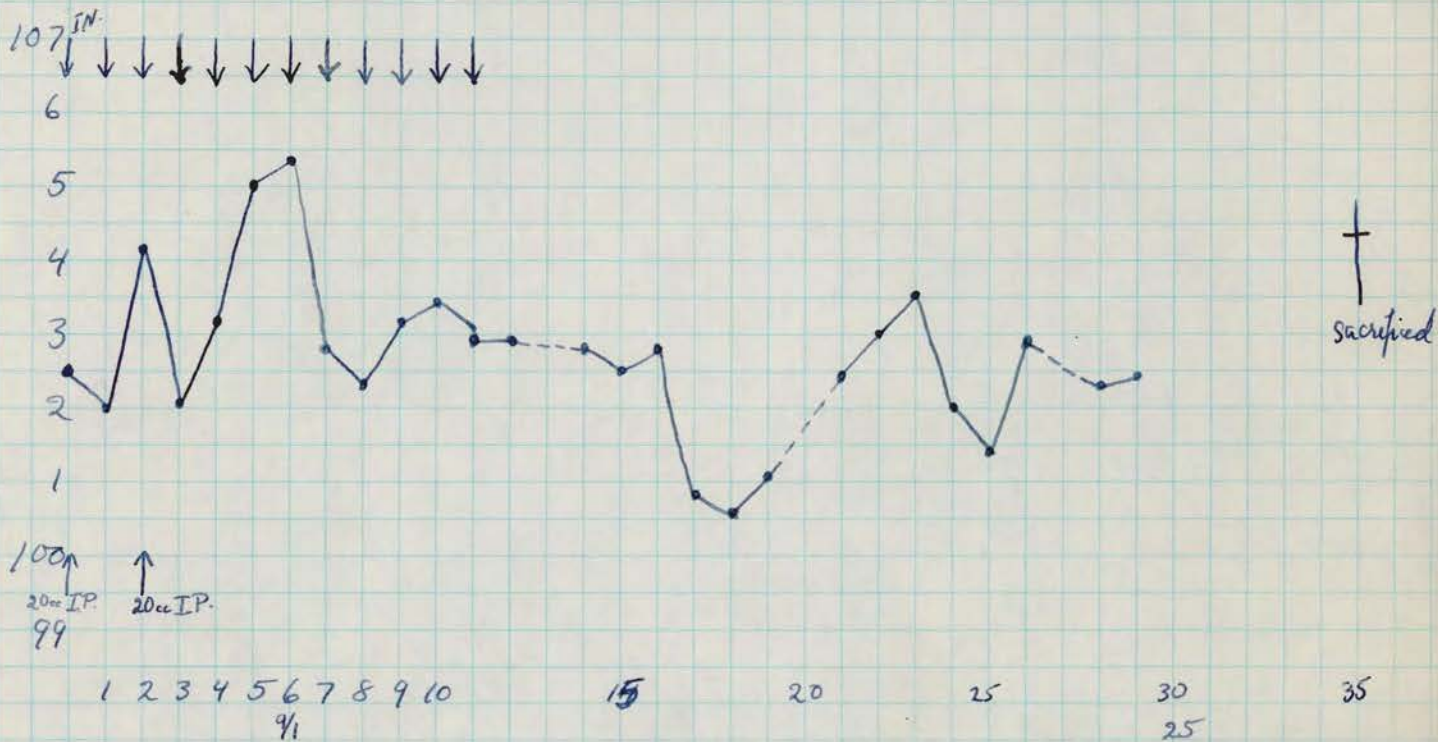
Etherized & left 36 hours in cold. centrifuged twice in usual manner.

20cc I.P.

1.0cc in each nostril - of sediment from pre-ether centrifuging

9

Rh 47

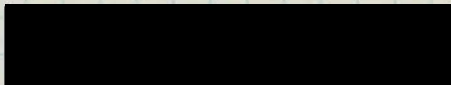


9-30 autopsy.

no tbc.
CNS. normal grossly.
sections: olfact. bulbs, medulla, cord L3 D1 C2
glycerine rest of " "

at time: 2 bulbs 6 cord 1 medulla.

Microscopic - Both olfactory bulbs, medulla, 6 levels of cord -
negative



12 yrs. wh. ♂

July 3rd. first symptom of paralysis - both legs.

July 4 C.S.F. 375 cells.

July 5 " 282 "

Between 7-3 and 7-7 paralysis ascended involving diaphragm & intercostals.

7-16 in respirator. 95 out for as long as 1 hr.

4 PM. Cotton plugs inserted in rt. nostril.

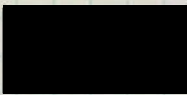
7-17.

10 AM plugs removed from rt, fresh one inserted in left.
5 PM " " " left " " " " right

7-18 9 AM " " " right " " " left
5 P " " " left " " " right

7-19 9 A. " " " right " " " left
1:30 P " " " left
Stool obtained.

July 22.



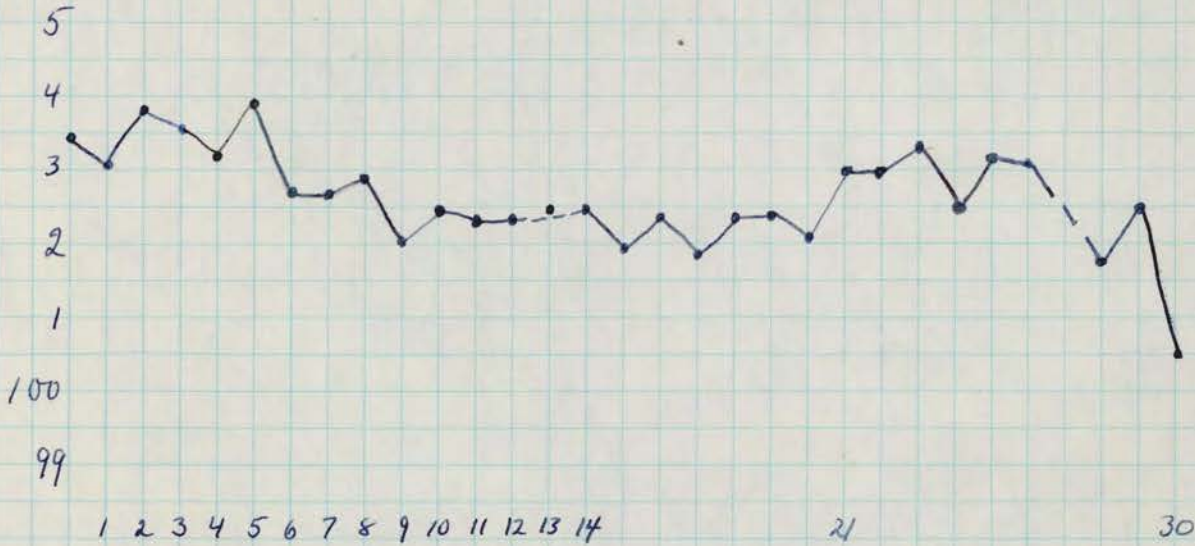
Nasal plug extract 1.75 cc. I.C.

5.0 cc. I.P.

↓ = 1.0 cc. in each nostril. (5x)

Rh. 63.

106 ↓ ↓ ↓ ↓ ↓



†
sacrificed
8-29-40
38th day

8-29-40

autopsy

viscera normal
C.N.S. nothing in gross.

sections : olfactory bulbs, medulla, cervical (2) dorsal (1)
+ lumbar (3) cord.

glycerine remainder of cord & medulla

Microscopic - medulla, cord, olf. bulbs - negative

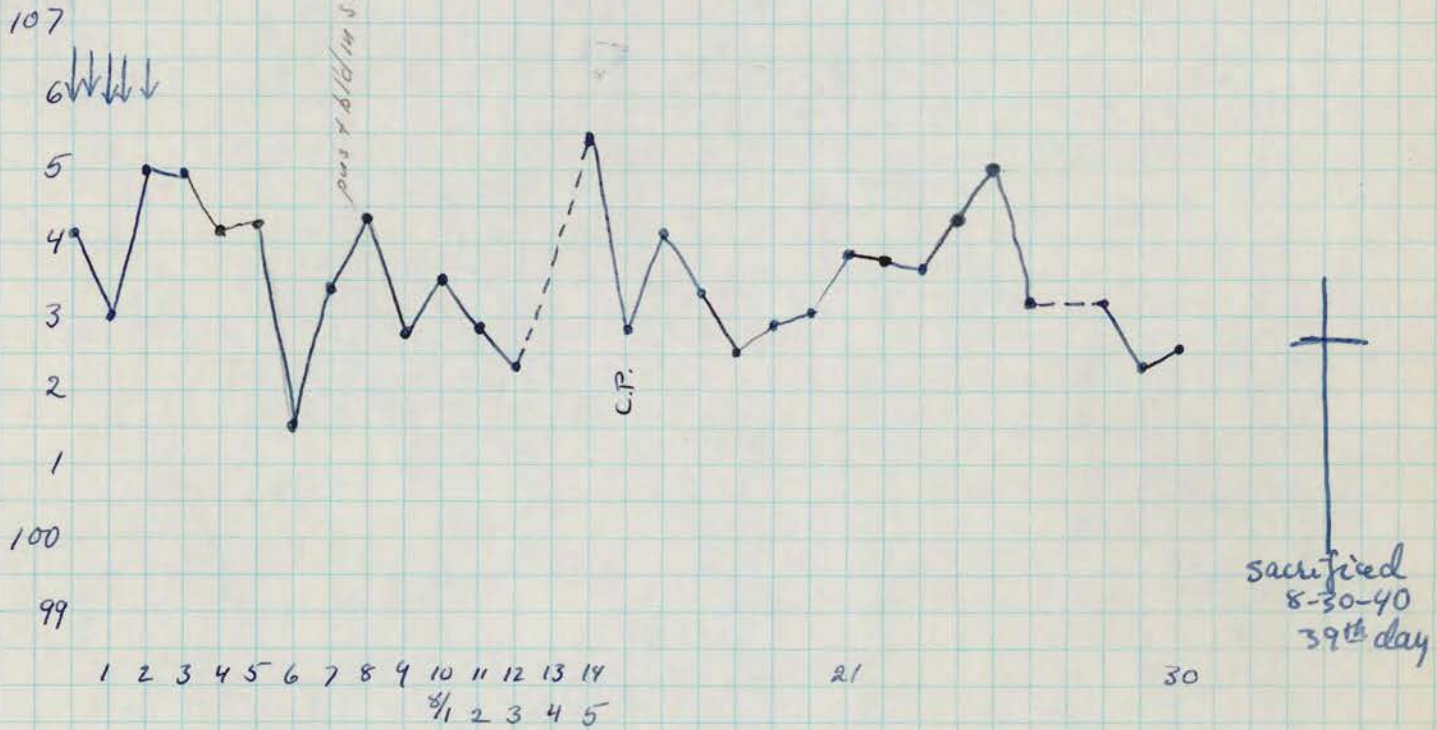
July 22.



Saliva

2.0 cc I.C.
3.0 cc I.P.
↓ = 1.0 cc in each nostril. (5x)

Rh69



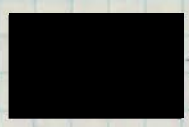
8-6-40 cisternal tap: C.S.F. clear. 34 cells, polys ~~4~~ 4, lym. ~~30~~ 30.

8-30-40 Autopsy.
 viscera: many lung parasites.
 yell. brown area 1cm diam. inferior
 anterior margin of liver.
 C.V.S. normal grossly.
 Sections olfactory bulbs, medulla, cord {cervical (2)
 dorsal (1)
 lumbar (3)
 glycerine rest of cord & medulla

Microscopic

Medulla - heavy infiltration near meningeal vessel in ventral fissure
 6 sections of cord and one olfactory bulb - negative

July 21.

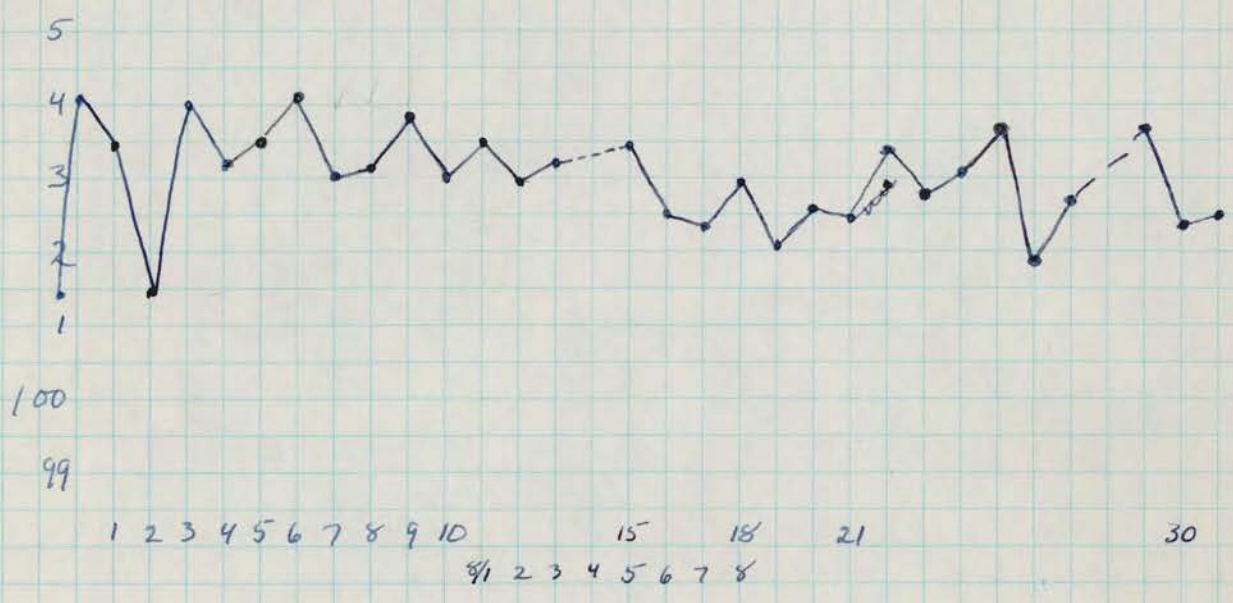


Untreated stool intranasally

1cc = \downarrow
each nostril.

Rh 59.

106 $\downarrow \downarrow \downarrow \downarrow \downarrow$



†
sacrificed
8-30-40
40th day

8-30-40

autopsy.

viscera
cns.

normal
nothing in gross.

Sections olfactory bulbs, medulla, ^{(2) cervical} _{(1) dorsal} } cord
_{(3) lumbar}

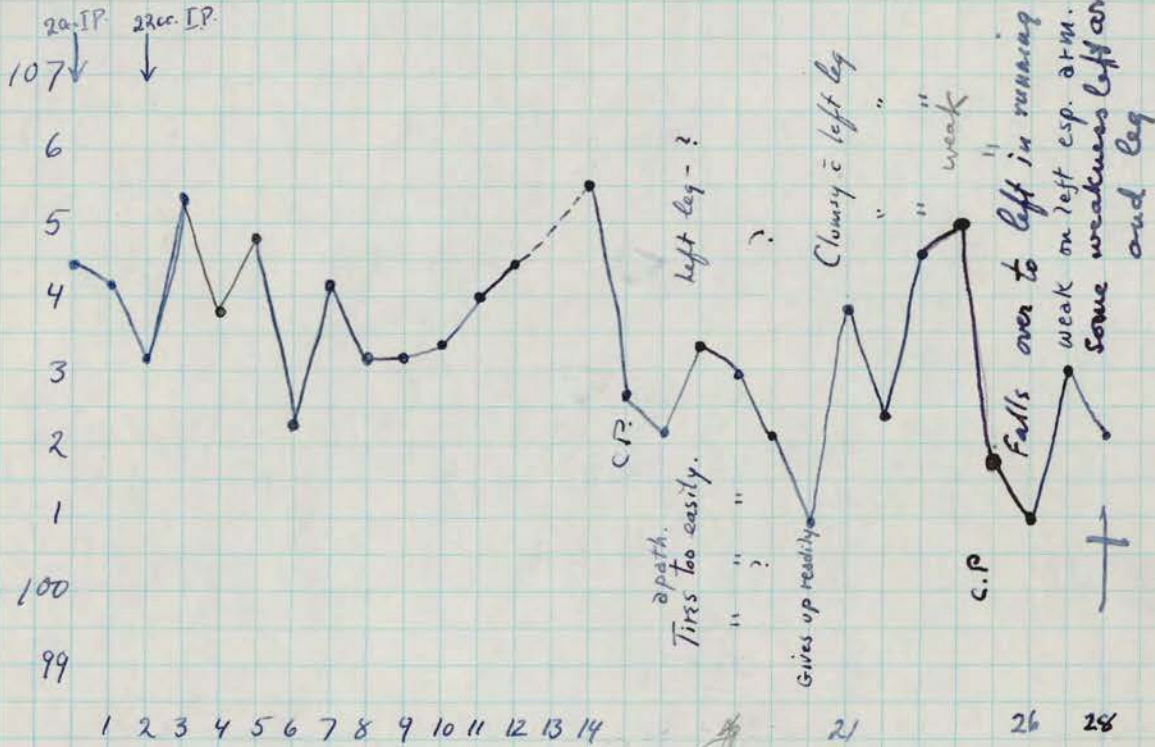
Glycerine rest of cord & medulla.

Microscopic - Both olf. bulbs, medulla, 6 sect. of cord - negative

July 22.

Etherized stool suspension 20cc I.P. ↓

Rh. 70.



8-6-40 Cisternal puncture - CSF. bloody.
 8-7-40 " " " " " "
 8-9-40 " " " " " " tried 135 cells Poly 45 Monos 90
 8-16 " " " " " " 120 cells (monocytes)

8-19 Sacrificed - Viscera normal
 CNS - grossly not remarkable
 Sections in Z.A. - rest in glycerine

Histology

Lumbar Cord — Neg.
Thoracic " — "
Cervical " — "
Spinal ganglion — "
Medulla — " (few cells in meninges)?

wh ♂

yes

Onset 7-10. Prodromal symptoms for 3 days - vomiting fever headache
7-13 Paralysis Paralyzed 2 1/2 days - both lowers, left upper,
& rt. arm is weak.

C.S.F. 300 cells.

Has fecal fistula from
rupt'd appendix 3 mos. ago.

7-16 P.E. T. Left arm & both legs in bandage splints.
rt arm muscles all weak.

4 PM. cotton plug inserted in rt. nostril.

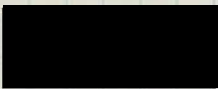
7-17 T down. Right arm practically paralyzed.
10 AM. plug removed from rt, fresh one inserted in left.

4 PM.	"	"	"	left	"	"	"	right.
7-18 9 A.	"	"	"	right	"	"	"	left.
5 P.	"	"	"	left	"	"	"	right.
7-19 9 A	"	"	"	right	"	"	"	left.
1:30 P	"	"	"	left.	"	"	"	

sample of feces from fistula
& small amt. euema returns.

? weakness of diaphragm.

July 22.

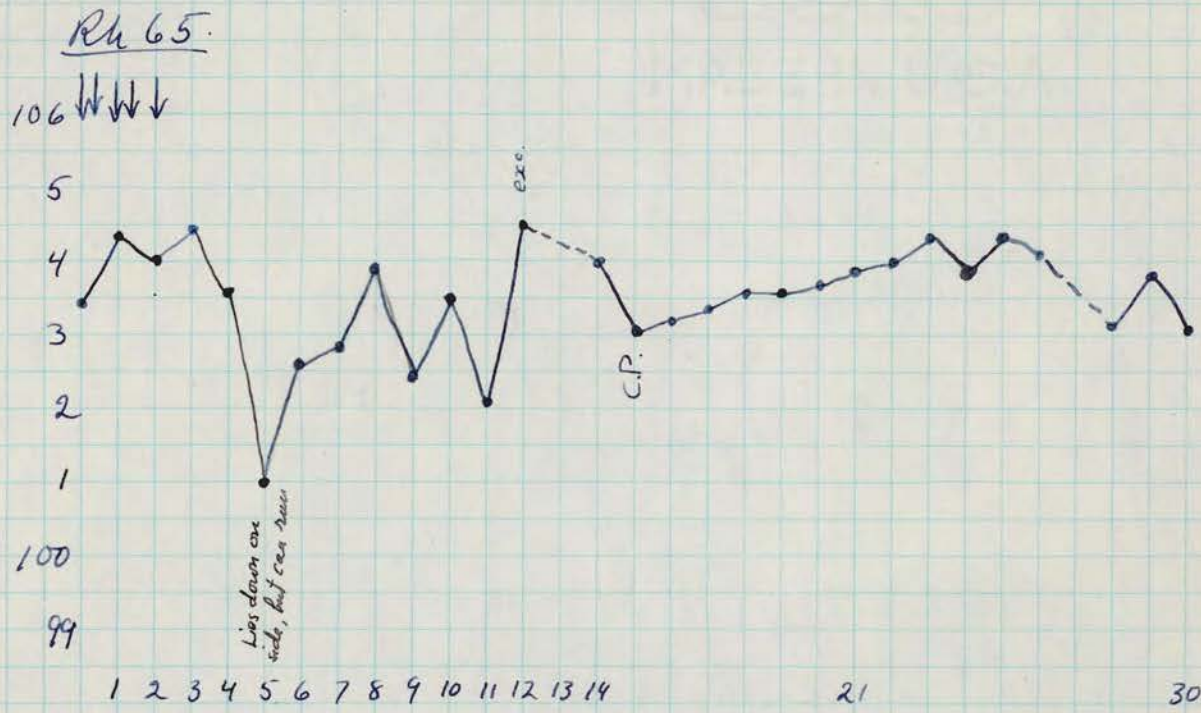


- Nasal plug extract

1.6 cc I.C.

5.0 cc I.P.

↓ = 1.0 cc in each nostril.
(5x)



†
Sacrificed
8-30-40
39th day

8-6-40 Cisternal tap : bloody CSF.

8-30-40 Autopsy

Viscera : normal

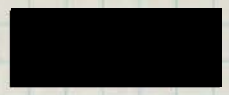
CNS. " in gross.

Sections : olfact. bulbs, medulla, cervical (2)
thoracic (1)
lumbar (3)
cord

glycerine : rest of cord & medulla

Microscopic - ^{medulla} definite mononuclear infiltration at one meningeal vessel
6 levels of cord, both olfactory bulbs - negative

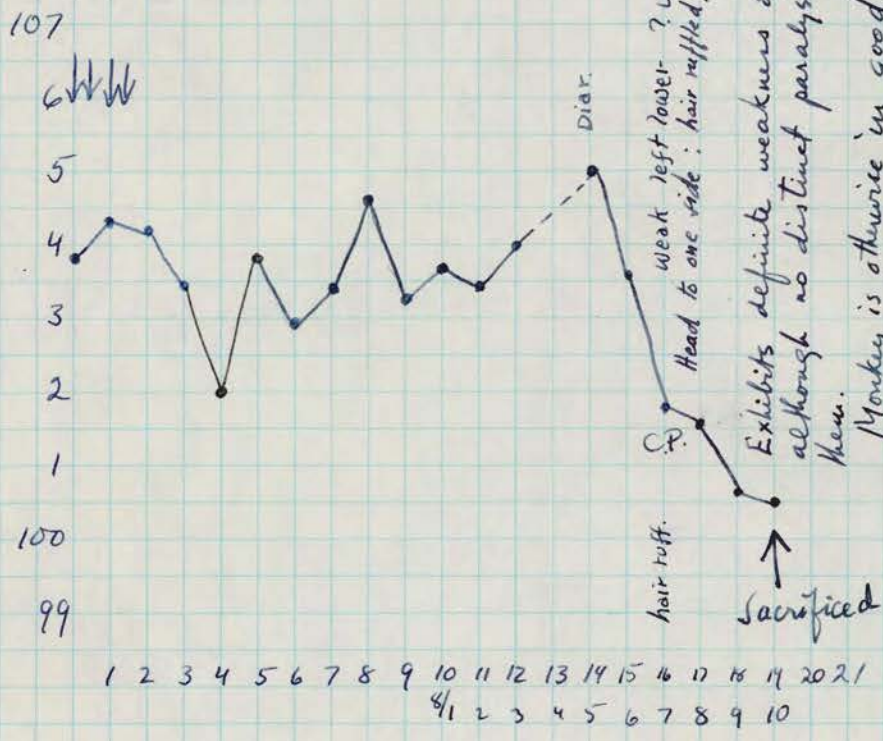
July 22.



Saliva

2.0 cc. I.C.
5.5 cc I.P.
1.0 cc in each nostril. (4x)

Rh 68.



Diarr. Weak left lower? upper. Diarr.
 Head to one side; hair tufted; weak left?
 Exhibits definite weakness of extremities although no distinct paralysis of any of them.
 Monkey is otherwise in good condition and falling temperature associated with multiple weakness was responsible for decision to sacrifice him.

- 8-7-40 Cisternal puncture blood tinged fluid which cleared slightly. 0.1 cc shaken in 0.1 cc Turb's (3% acetic ac) & counted: 24 cells all lym.
- 8-9-40. Cisternal puncture 68 cells all mononuclear elements.
- 8-10-40 Cisternal puncture bloody tap.
- 8-10-40 autopsy nothing remarkable in gross.

Histology

lumbar, thorac., cervical cord - neg
 Medulla - neg. (few cells in meninges)
 Both olfactory bulbs - neg.

8-10-40

Rh 68 - Spinal cord 10% suspensionRh 62.

107

6

5

4

3

2

1

100

99

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 25 30 35
 1/2 2 3 4 9

Oct. 1, 1940 - Monkey in good condition - sacrificed to determine whether any lymphocytic meningeal lesions are present.

Bled - blood saved for neutralization test
culture no growth in 4 days.

Sections - regular sections from cord & medulla
 also sections to include ventricles and choroid plexus

Microscopic - Sections through 4 levels of lateral ventricles, one through diencephalon, one mesencephalon, one medulla, and 5 levels of cord - negative (cells, choroid, meninges, vessels)

Section thru thalamus - choroid plexus shows focal accumulation of mon. cells

" " choroid over hippoc. - " " " also some eosinophiles
 " " choroid - foci of mon. cells - few

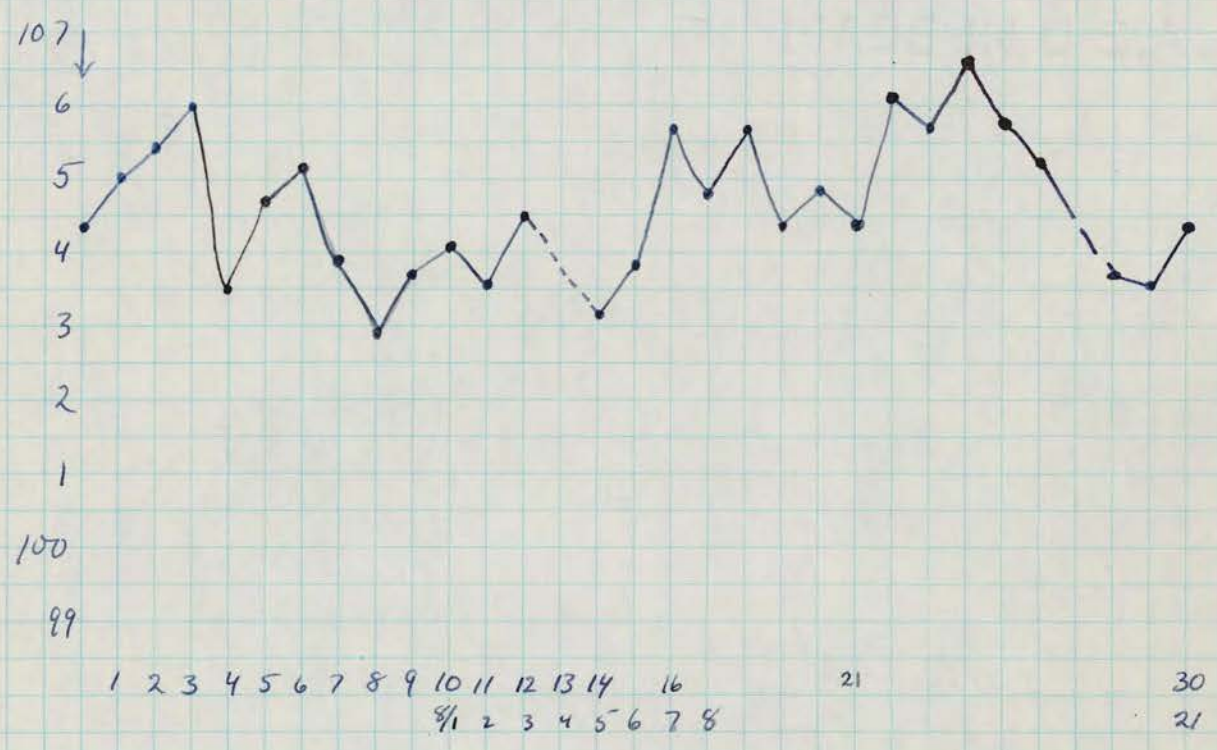
One level of spinal cord - one meningeal vessel shows st. infiltr.

July 22.



- Etherized fecal fistula specimen combined c
- enema returns - 21 cc. I.P. = ↓

Rh 72.



†
sacrificed
8-29-40
38th day.

8-29

autopsy

viscera : usual lung parasites.
nothing else in gross.

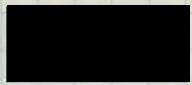
C.N.S. normal.

Sections medulla, cervical(2) thoracic(1) lumbar(3)
cord

glycerine rest of cord & medulla.

Microscopic - one level of medulla and 6 of cord - negative

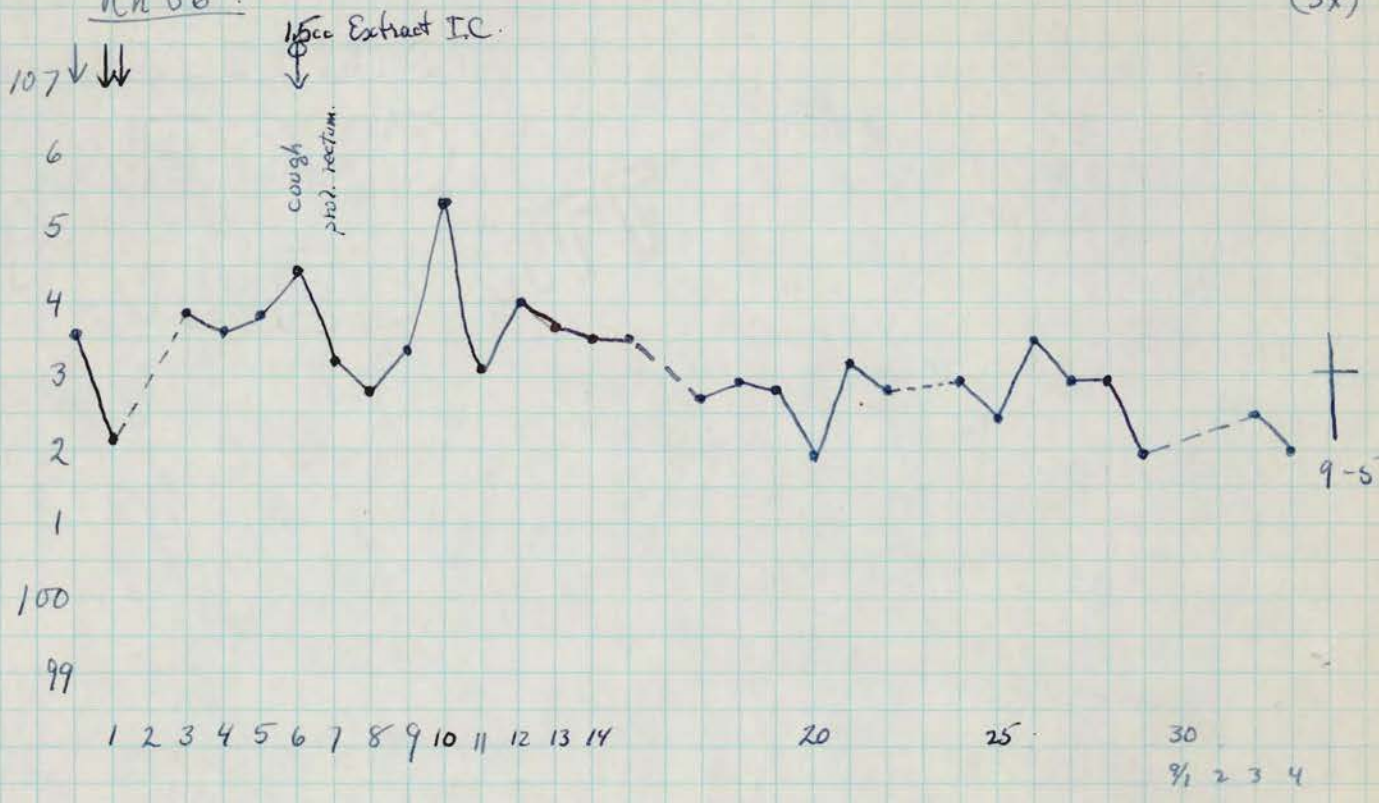
8-2-40



Nasal plugs

1. undiluted juice 1.3 cc. I.C.
2. extract 4.5 cc. I.P.
3. " ↓ = in each nostr. 1.0 cc. twice daily (3x)

Rh 56



9-5-40

autopsy

viscera

congest. lungs, parasites in lungs & gut.

C.V.S. normal grossly.

sections cord lumbar, dorsal, cervical & medulla

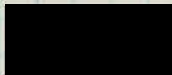
glycerine rest of cord & medulla.

Microscopic - Both olfact. bulbs - focal infiltration of mononuclears in meninges of one bulb

Medulla - few cells in meningeal vessel

3 levels of cord - negative

8-1-40



2.6 gm. (moist) taken up in 26 cc. water

Stool : 1.) Untreated 1cc. in each nostril
2.) Etherized. 18cc. 8-2-40 = ↑

33
↓ (5x)
~~(3x)~~

Rh 78:

↓ ↓ ↓ ↓

107

106

5

4

3

2

1

100

99

1 2 3 4 5 6 7 8 9 10 11 12 13 14

20

25

30

1/2 3 4

hair ruff.

+

sacrificed
9-5-40
35th day

9-5-40 autopsy.

viscera : normal grossly

CNS : " "

Sections : medulla, cord { lumb
dorsal
cervical }

glycerine : rest of cord + medulla

Microscopic - Both olf. bulbs + medulla, 2 levels of cord - negative
Cervical cord - definite infiltration one meningeal vessel

8 yrs wh ♀

cc. inability to move legs, chiefly left.

P.I. 7-11 fell downstairs (sleepwalking)
 7-13 stiff neck.
 7-14 fever 102. "palate swollen", could not talk plainly
 nose bleed.
 fever lasted 3 days, then felt better.
 7-19 v. weak in legs → at present no control in legs
 7-27 adm to SWR. hosp.

PE. 99.6. flaccid paralysis left leg.
 Rt. leg weak. Both deltoids weak
 rest of arms seem OK.

Temp.
 7-28 100.
 ↓ normal
 7-31

Reflexes.

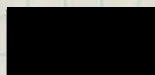
	Rt.	Lt.
Bi	+	+
Tri	+	+
Perist Rad	+	+
Ablom	+	+
KJ.	+	0
Alg.	+	0.
Bab	0	0

C.S.F. 7-28.

7-28 11 AM. Plug in left nostril. Bottle left for saliva.
 6 PM. " " " removed, fresh one inserted in right.
 7-29 10 A " " right. " " " left.
 6 P " " left. " " " right.
 7-30 10 AM. " " right. " " " left.

stool 7-31

8-2-40



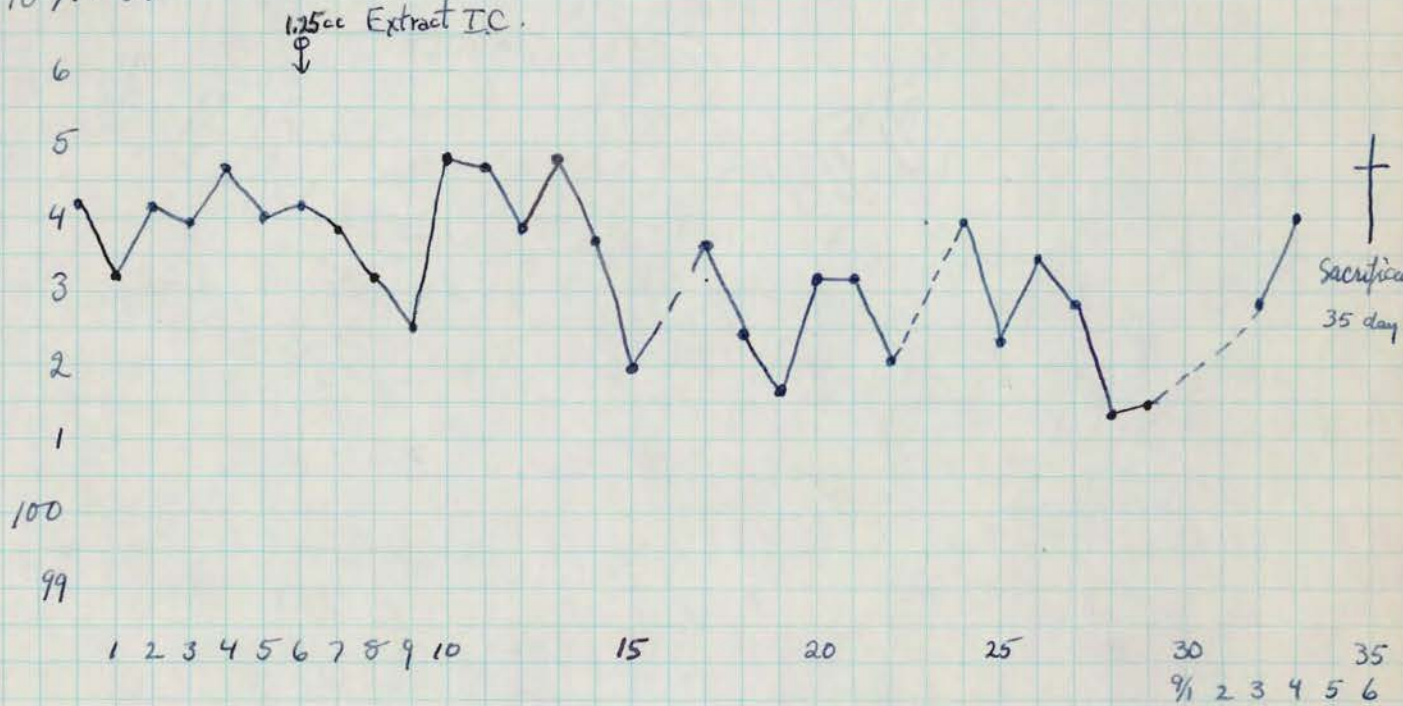
Nasal plugs

- 1.) undiluted juice
 - 2.) extract
 - 3.) " in each nostril bd. 1.0 cc = 4x
- 1.2 cc I.C.
4.0 cc I.P.

(51)

Rh 90

10 ↓ ↓ ↓ ↓

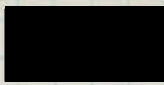


9-6 Autopsy.

viscera	normal	no tbc.
C.N.S.	no gross lesions	
sections	olfact. bulbs, medulla, cord	{ lumbr. 3 dors. 1 cerv. 2
glycerine	rest of cord + medulla.	

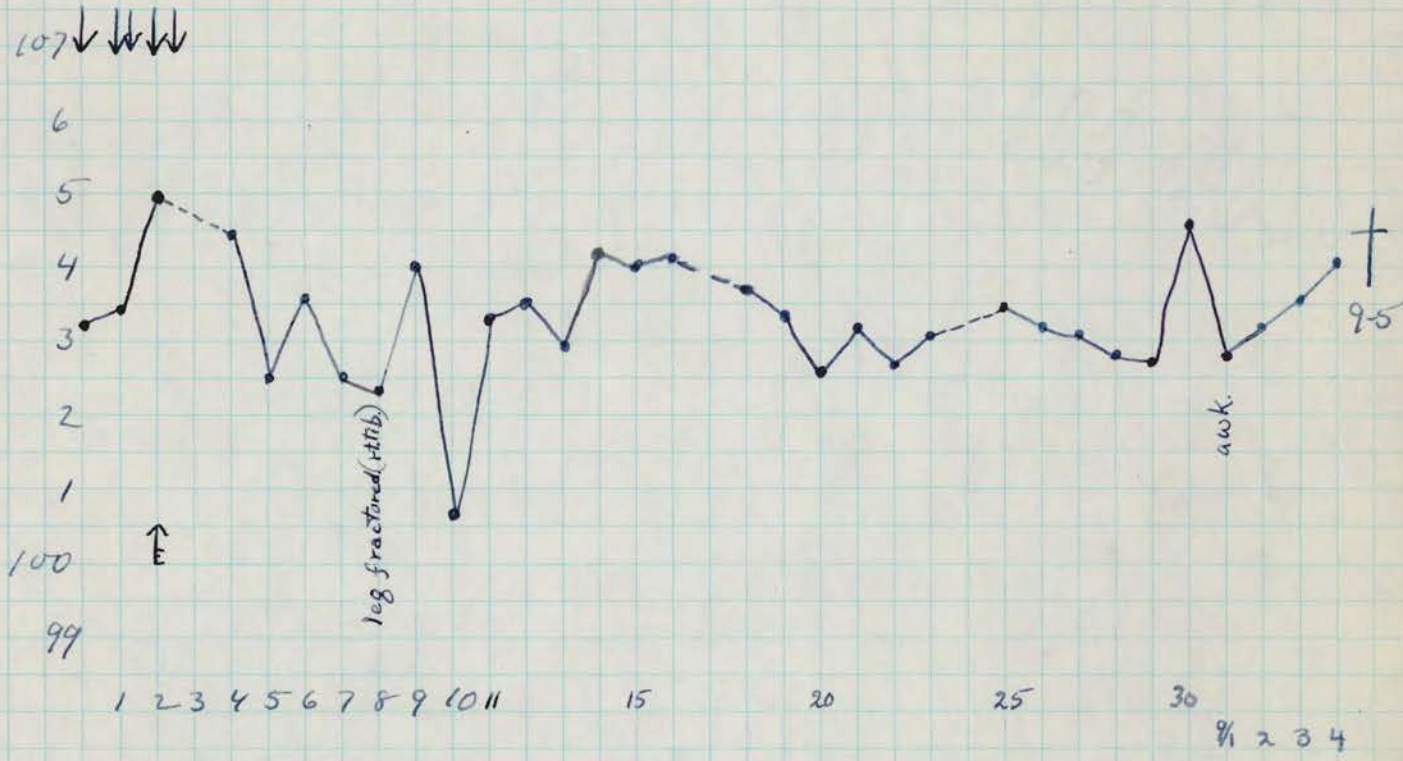
Microscopic - Medulla - infiltr. mening. vessels + some in choroid
 2 cervical, 1 lumbar, 1 thoracic - infiltr. mening. vessels
 2 lumbr. } - negative
 both olf. b. }

8-1-40



5.8 gm. (moist) taken up in 50cc water (52)
Stool 1) Untreated, 1cc in each nostril
2) Etherized. 17.5cc IP. on 8-3-40 (2nd day) = E

Rh 84



8-5-40

Etherized stool suspension 15cc given by mistake to Rh 79.

9-5-40 autopsy

viscera normal, lung parasites.
 C.N.S. " grossly.
 sections: medulla, cord dorsal
 lumbar
 cerv
 glycerine rest of cord + medulla.
disc 1-21

Microscopic - 3 levels of cord, medulla, both olfactory bulbs - negative

6 yr. wh. male

C.C. headache, fever, vomiting, sore throat.

P.T. onset 7-20. headache, fever 103.

7-21 vomiting

7-24 started on sulfamizide, headache made worse



symptoms remained same.

7-28 Highest temp. 100.

Adm 7-28 to GWR Hosp.

P.E. T 99.3. se. stiff back. absent knee + ankle jerks
No loss of power in legs. Arms OK.

7-28 C.S.F. 150 cells ⁹⁴ To Lym ⁶ To polys.

plug lost replaced.

7-28	6 PM.	Cotton plug inserted in left nostril,	Bottle left for saliva.
			̄ great difficulty because of struggle.
7-29	10 AM.	" " removed from left	fresh one in right
	6 PM.	" " " " " " right	" " " " left
7-30	10 A	" " " " " " left	" " " " right
	6:30 P	" " " " " " right	" " " " left
<u>Stool</u>	7-31 (11 AM)	7-31 9:30 A	" " " " " " left
		3:00 P	" " " " " " right

46-2-40



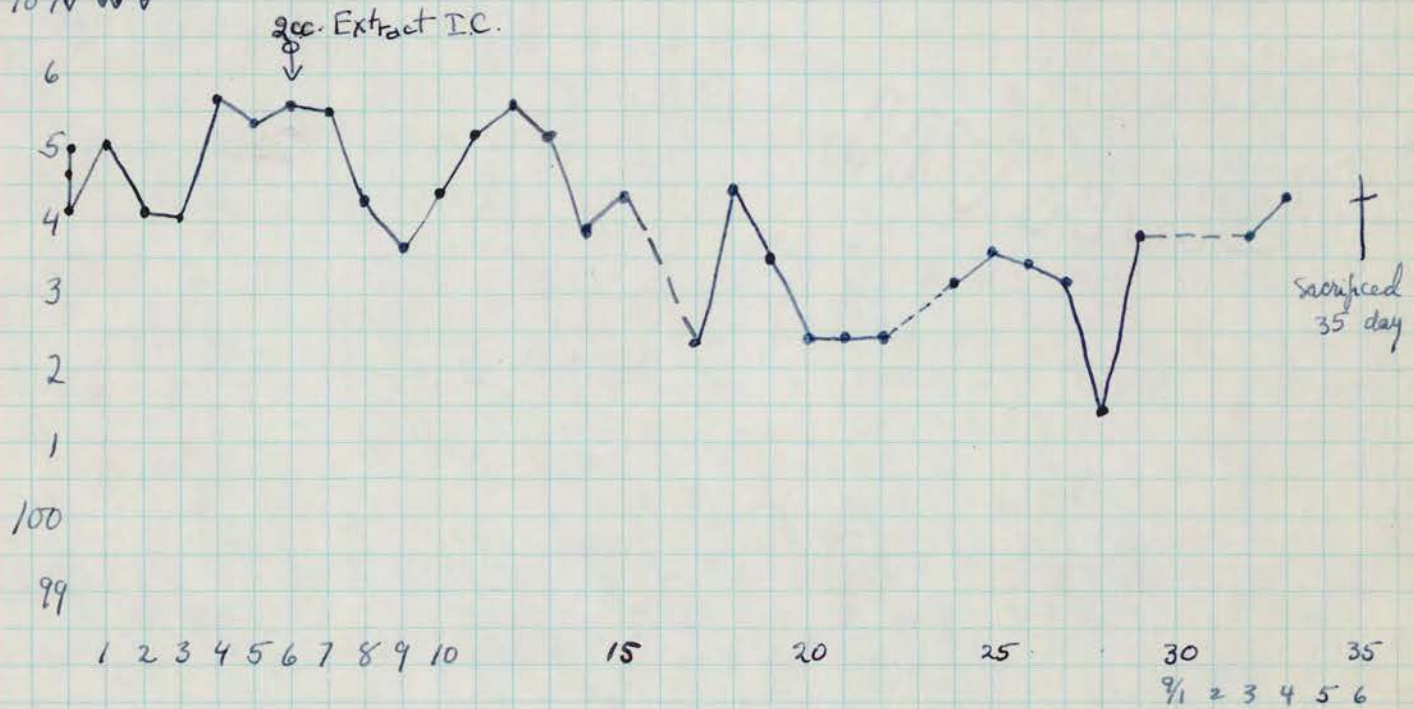
Nasal plugs

- 1.) undiluted juice
- 2.) extract.
- 3.) " in each nostril b.d.

(48)
 1.1 cc I.C.
 5.0 cc I.P.
 1.0 cc = ↓
 (4 x.)

Rh. 87

10x ↓ ↓ ↓



9-6 autopsy.

Viscera

no tbc.

C.N.S.

no gross lesions

sections

defact. bulbs, medulla, cord
 lumbr 3
 dors. 1
 cerv. 2

glycerine

rest of cord & medulla.

Microscopic - Medulla, 1 lumbar, 1 cervical cord - show infiltrated meningeal vessels.

4 other levels of cord - negative

Olf. bulb sections - missing

onset 8-19 1 AM. headache, fever, insomnia.
adm. to children's Hosp.

P.E. T 100.4 → 102.2 → 99.

stiff neck, + Kernig.

Kg's present & equal.

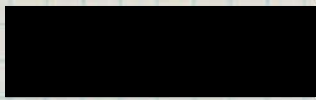
C.S.F. sl. cloudy, 350 cells 90% pol. 10% lym. Pandly+

8-20 T 99.8 → 98 below 99 thereafter.

no paralysis by 8-29.

Nasal plugs 1 on 8-21
2 " 8-22
1 " 8-23

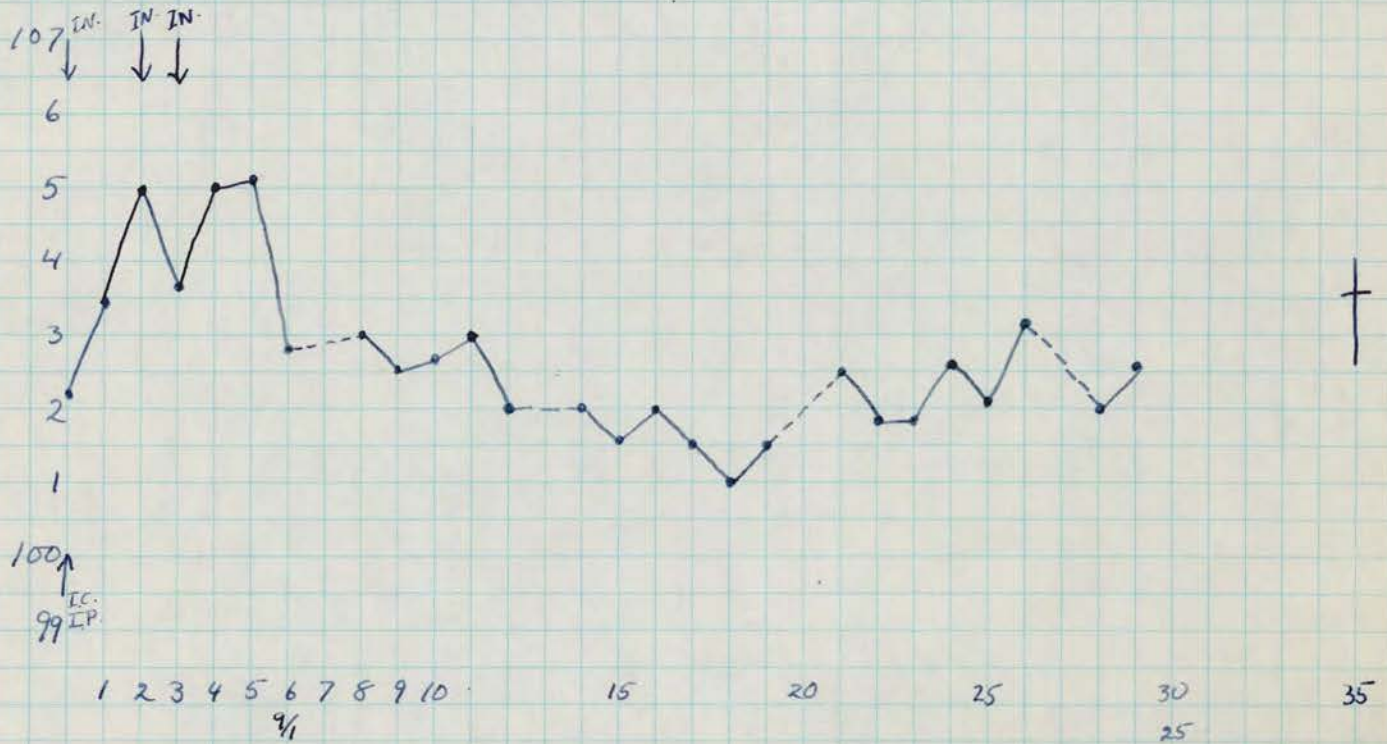
5-26-40



11 ~~129~~

- Nasal plugs (4) prepared in same manner as on page 6
- 1.) 2cc i.cer. undiluted juice.
 - 2.) 5.5cc i.p. " " plus 1st extract.
 - 3.) 1.0cc in each nostril: 2nd extract plus sediment

Rh 22.



9-30 autopsy

no flc.

cns normal grossly.

sections: olfact. bulbs medulla cord L3 D1 C2
glycerine rest of " "

at him: 2 bulbs 6 cord 1 medulla.

Microscopic - both olfactory bulbs, medulla, 6 levels of cord -
negative