Notes taken during Conference on
B Virus - Pharmaceutical Companies.

Philadelphia, Feb. 4, 1958
Problems in Development of a Vaccine for B Virus

1. Minimal unit of formalin required to inactivate B virus culture fluid
   + minimal time required for inactiva
   a) Culture fluid without serum
   b) Centrif. virus x 3000 x 10 x

Pretreat formalin neutralized; Part 2 - formalin not neutralized

2. Inactivation by phenol -- ricindole?

3. Inactivation by Beta Rays.

Next Step

Determine immunogenic activity of optimally inactivated virus by above procedures in:

    a) Normal rabbits
    b) Herpes simplex convalescent rabbits

If any of above are successful, test immunogenic potency by antigen
    extinction & determine which has more antigenic activity

Vaccine of greatest potency to be tested in human beings:

    a) without herpes antibodies
    b) with herpes antibodies
Finally studies on best method of keeping vaccine - a) wet & lyophilized - Methods - test in rabbits

Group 1 - Study inactivation by formalin

Group 2 - Study inactivation by other methods or same group

Question of humans to be vaccinated
Question of dosage - unit, no. of doses, intervals
1. Review experience - each of 4 laboratories

2. Proposal re: vaccine

3. Experience with B virus in regular production runs

Dr. Davidson - Merck, Sharp & Dohme
Two suspect fatal cases

yr. old [redacted] man - monkey handler
Frequent histories of sore throat
Bites and scratches from handling of monkeys
Admitted 57 - fever for 5 days
nausea, vomiting - lethargy, somnolence, severe headache - Temp 103\BP 160/80
Neurologic on exam. - variance on sensation to
pin-prick - L.P. pressure 400
Mod. pleocytosis - 89 RBC - 95% lymphs
Confused - apnea On poor swallowing
- needed gastric tube for feeding - [redacted] paralysis
- deep anaesthesia to pin-prick up to mandible - many other CNS manifestations later
- comatose Died Onset [redacted]

Last monkey bite
Ser. on admission +5 days later 28 to 1 Herpes
Subsequently 16 to 32 [redacted] antibodies in 1 Herpes
virus in tissue culture (monkey kidney) [redacted]
Stools neg in Afa & Monkey Kidney
Cortex - Traumatum - a little bit of cord
including medulla

Sections - cuffing - necrotic areas

Second Case - 2 yr. old Boy - technician in polio area
1958 - Abrasion
-
minor laceration left ring finger
Piece of flying glass from Blake bottles
struck his finger - given 15 mg gamma-globulin, 11.20.

- "cold" - blister on palmar surface
  of left hand - @ 1 cm. in size
  serous - purulent fluid - enlarged
  tender axillary

Next morning

100.4 - left thumb infected
red throat

- normal temp. returned to work
skin areas normal

- blister area healing - chilly
  stiffness of neck - "new cold"
  No muchal rigidity
- fever - increased stiffness
  of neck
- still fever - neck better
- difficulty in swallowing
100.6 - could swallow on
observation

LP - Pressure 240

157 cells - 96% lymphs; no RBCs
Mucosal rigidity & spinal rigidity present
- Diplopia - muscle weakness  
Vomited - 4 PM - progressively worse 
Post pharynx - palsy 
!! Numbering tingling in extremities 
K.J.'s - variable to absent 
- pressure elevated - $200 
3 am Placed in respirator - weak respiratory excursion 
Tracheotomy performed 
Hyperimmune plasma 
Also some plasma from person with titer of 1:14 
Weakness of extremities but not complete 
Paralysis 
Transient weakness of right arm, face 
- 2 days ago bladder enlarged 
- Died 

1955- only 1 8/10  
1956- only 1  
1957- only 1  
Since June - 5 
July - 4 
Oct. - 2 
Nov. - 1 
Dec. 5  
12/27  
Jan. 20  

CSF - monkey B.E.L.A. neg. 
Brain - Cortex - medulla pons - cervical cord 
Lymph node from left axilla 

D Cord - stem + cortex separate 
Glycerol cortex - 3/4 monkey kidney tube 
Brainstem - 1/4 
Cord - none 

Pool of glycerinated CNS - 3/10 
Frozen CNS - 3/10 
Adult mice icer + newborn mice of 10 - neg.
Lilly - Dr. Pierce 45 yr. old man.
Died suddenly 1957
First ill 1957-fever,
ached all over - no special find

Extreme agitation on night of illness
Probably delirious unable to sleep

Was in plant Sat noon - visited Dr.
did not any severe
neurologic change except double vision
said felt better at noon

3PM - resting comfortably
6PM found dead

His job - animal handler - experienced
1957 - polio testing
Tests for Polio viruses among other
things. Helped establish colony of monkeys
- work primarily
- establishing colony of monkeys
Five recorded instances of injuries to
hands - 7 recorded monkey bites
- Last recorded bite on 1957
- healed without incident.

Post mortem - slight abrasion noted on left knee
Scab was present at site of abrasion