CON: Penicillin did not cause the AIDS Epidemic

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Disclosures

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Koch’s Postulates

• Epidemiological association
• Isolation of pathogen from AIDS patients
• Transmission pathogenesis in animal models or in man

Robert Koch 1843-1910

http://www.who.int/gho/hiv/en/
Since the beginning of the epidemic, almost 78 million people have been infected with the HIV virus and about 39 million people have died of HIV

http://www.who.int/gho/hiv/en/

Epidemiologic association

• HIV or anti-HIV antibodies found in > 95% AIDS cases
  – HTLV III isolated from a total of 48 subjects including 18 of 21 patients with pre-AIDS
  – Three of 5 clinically normal mothers of juveniles with AIDS
  – One of 22 normal male homosexual subjects
  – No HTLV-II was detected in or isolated from 115 normal heterosexual subjects

Gallo et al. Science, 224: 500-503; May 1984
Isolation of HIV in AIDS

1983
- At the Pasteur Institute in France, Drs. Francoise Barr-Sinoussi, Luc Montagnier, et al., isolated a new retrovirus from a French patient with AIDS symptoms. They call it lymphadenopathy-associated virus, or LAV.

1984
- Dr. Robert Gallo of the U.S. National Cancer Institute isolated the virus believed to cause AIDS. He called it human T-cell lymphotropic virus type III (HTLV-III).
- At the University of California, San Francisco, Dr. Jay A. Levy reported the isolation of a retrovirus from U.S. AIDS patients and healthy individuals in risk groups. He calls it the AIDS-associated virus (ARV).

Scientists conclude that AIDS is caused by a new retrovirus, later named human immunodeficiency virus (HIV).

HIV originated from SIV

Theoretical Biology and Biophysics Group, Los Alamos National Laboratory.

HIV/AIDS from central Africa

- SIVcpz of P.t. troglodytes chimp source of HIV-1 group M
- Robust sex trade in Leopoldville in 1920s
- Massive campaigns in 1920s to eradicate sleeping sickness with IV/IM trypanocidal drugs for “sleeping sickness”

Introduction and spread occurred BEFORE penicillin
HIV causes AIDS: Koch's postulates fulfilled
Guest editorial
Stephen J. O'Brien* and James J. Goodenough

Koch, Robert, in his studies on the virulent nature of the mixed group of bacteria, the cholera bacillus, he found that some strains of the bacillus were able to produce disease in animals. He also found that the bacillus was able to produce disease in humans when introduced into the body. This led to the development of the Koch postulates, which state that to prove that a particular bacterium is the cause of a disease, it must be present in the infected tissue, it must be isolated from the healthy tissue, it must be able to multiply in pure culture, and it must produce disease when re-introduced into the body.

Number of new HIV infections, global, 1990-2014

Number of new Bill Cosby movies or shows by year

Conclusions

• Overwhelming evidence HIV causes AIDS
• Introduction and spread of AIDS occurred BEFORE penicillin
• Maybe Bill Cosby caused the AIDS epidemic?
• Penicillin did not cause the AIDS epidemic

Thank you