

Susceptibility of the Gibbon to Infection with Neisseria gonorrhoeae

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OBJECTIVE: A laboratory animal model for the study of gonorrhoeae infections as they occur in man is not presently available. The development of such a model would extend the opportunities to study aspects of this disease such as the development and character of antibiotic resistance and factors which affect host immunity. These aspects are beyond what is presently possible with human volunteers. Because the gibbon, Hylobates lar, has been shown to be susceptible to other human infections and numbers of these animals are readily available in the laboratory, it seemed a logical animal to study for this purpose.

DESCRIPTION: Following a small pilot study to establish the normal bacterial flora in the gibbon nasopharynx, rectum, conjunctiva, the urethra or vagina, and the gingiva, 28 gibbons consisting of an equal number of males and females were inoculated topically and intramucosally by multiple routes with a heavy suspension of the virulent (T 1) strain of Neisseria gonorrhoeae isolated earlier from infected humans. The conjunctival, rectal, cervical, and in the male the urethral sites of inoculation were examined daily for approximately two weeks for any evidence of clinical lesions. Bacterial cultures were also made each day from these same sites and processed in the laboratory under conditions favoring to maximize the isolation of N. gonorrhoeae.

PROGRESS: No clinical evidence of infection or N. gonorrhoeae isolates were obtained during this time.

SUMMARY: It seems apparent from these findings that the gibbon is not susceptible to infection with N. gonorrhoeae under these conditions. The normal body temperature of the gibbon is slightly higher than that of man and this factor may be significant in preventing the establishment of infections with N. gonorrhoeae, an organism that is known to be vulnerable to such increased temperatures when artificially cultivated.