Title
Pathogeny recapitulates epidemogeny.

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Abstract
I wish to propose that the course of the pathology of a disease in an individual, pathogeny, can recapitulate the fluctuations in virulence in a population during the course of an epidemic, epidemogeny. One model for the fluctuation in virulence in a population during the course of an epidemic is that of a non or less pathogenic strain competing out a more pathogenic strain. This may be the evolution of the AIDS epidemic. This model predicts a high degree of infectious virulence, followed by clusters of infectious hypovirulence, followed by an attenuation of the symptoms of the disease, followed by a termination of the epidemic. Pathogeny recapitulating epidemogeny suggests that in an individual infected with a pathogenic strain of HIV-1 can become infected, post exposure, to a competitive non-pathogenic strain of HIV-1. This would lead to a concomitant attenuation of clinical symptoms; followed by an HIV-1 positive asymptomatic status; followed by a seroconversion to an asymptomatic HIV-1 negative status. One can, therefore, expect that the AIDS epidemic will follow the natural course of epidemics and evolve a less pathogenic, avirulent, but more competitive strains of HIV-1. This non-pathogenic competitive strain should limit the severity and spread of the AIDS epidemic in time. I have recently identified a recombinant HIV-1 strain isolated from a healthy long term asymptomatic American, who showed infectious hypovirulence, (1) and which contains sections of an avirulent African strain. This suggests that such a virus has recently evolved and is entering the population at large. Because of the Africans strain’s nucleotide homology to Western strains, it was able to recombine with the more pathogenic Western strain. However, this recombinant retained the avirulence phenotype of the African strain. The region of recombination between these two strains, therefore, identities more precisely, the nucleotide sequence responsible for the clinical phenotype of pathogenicity; or, in this case, the clinical phenotype of being a long term asymptomatic. In summary, a pathogenic African strain is competed out by a less pathogenic African strain which enters the American population as an avirulent competitive recombinant, which in turn should compete out the more pathogenic strains in America, limiting the course of the epidemic. Individuals infected with this non-pathogenic strain, post-exposure to a pathogenic strain, show an amelioration of symptoms and viral conversion to the non-pathogenic strain. This recapitulates the course of the epidemic which, also, shows a conversion from more virulence to less virulence.

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