

It has been demonstrated that serial *in vivo* passage of simian immunodeficiency virus (SIV) can result in selection of pathogenic virus that can cause Simian immunodeficiency syndrome (SAIDS). Because African green monkeys (AGMs) persistently infected with SIVagm do not manifest any signs of disease, serial *in vivo* passage of Simian immunodeficiency virus of African green monkeys (SIVagm) was attempted in this study. Naive newborn AGMs were infected with SIVagm that was serially passaged in order to try and produce a virus with enhanced pathogenicity. The primary objective of this study was to determine the basis for lack of disease in AGMs by passaging SIVagm in newborn AGMs. The study utilized naive newborn AGMs, from SIV seronegativ dams.

Inoculating a naive newborn AGM with cell-free SIVagm 1532 isolated from the plasma of a naturally infected AGM started serial passage experiments. Two weeks later, 2ml of bone marrow from the first animal were transfused into a second naive newborn AGM. Two weeks later, bone marrow was transfused into a third naive newborn AGM from the second passage AGM. In the fourth passage, bone marrow from the third passage AGM was transfused into a fourth naive newborn AGM. Virus isolation and quantitation was determined by limiting dilution co-culture method. Virus presence was detected by SIV p27 antigen capture ELISA and nested polymerase chain reaction (PCR). Seroconversion was determined by antibody ELISA and confirmed by Western blot.

Virus isolation and seroconversion in SIVagm inoculated AGMs confirmed successful SIVagm passage in newborn AGMs. After one year, all the animals remained clinically normal. Bone marrow transfusions from SIVagm infected newborn AGMs into naive newborn AGMs induced persistent infection and an anti-SIV antibody response. However, this did not produce disease and the lack of disease in the AGMs suggests that: (a) AGMs may have an inherent resistance to SIVagm infection, (b) AGMs immune response controls SIVagm (c) or SIVagm does not kill or render immune cells of AGMs nonfunctional. This study may be useful in understanding the lack of disease in HIV infected asymptomatic individuals (long-term nonprogressors).