Monkey HIV Vaccine Success Opens Door for Human Trials

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A new HIV vaccine approach has proved highly successful at blocking SIV, HIV's virus simian cousin, among rhesus macaques, aidsmap reports. The orally administered vaccine also rapidly re-suppressed the viral loads of already-infected monkeys.

Publishing their findings in Frontiers in Immunology, researchers developed a vaccine comprised of an inactivated form of SIV that was given along with doses of bacteria: with the bacterium BCG, which is a tuberculosis suppressant, in eight monkeys; with Lactobacillus plantarum bacterium in eight monkeys; and with Lactobacillus rhamnosus bacterium in another eight monkeys. Then they repeatedly exposed the 24 primates to SIV through their rectums.

Thus far, 23 of the monkeys have not acquired SIV, compared with all 26 of the monkeys in a control group that did not receive the vaccine or that were given either inactivated SIV without the bacteria or the bacteria without the vaccine.

The vaccine appears to work by stimulating a class of CD8 cells known as non-cytolytic MHClb/E-restricted CD8+ T-regulatory cells (Tregs), which apparently prevented CD4 cells from recognizing SIV as a pathogen. Consequently, the body did not produce an immune response and deliver the CD4 cells that SIV needs to infect and thrive in the body.

Two early human safety trials of the vaccine are being developed.

To read the aidsmap story, click here.

To read the study, click here.

To read the accompanying commentary, click here.