

Gum disease found to worsen infection in animal model of AIDS

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Texas Biomed scientists in San Antonio have found that moderate gum disease in an animal model exposed to an AIDS- like virus had more viral variants causing infection and greater inflammation. Both of these features have potential negative implications in long term disease progression, including other kinds of infections, the researchers say in a new report.

The public health message from the study is that even mild inflammation in the mouth needs to be controlled because it can lead to more serious consequences, said Luis Giavedoni, Ph. D, a Texas Biomed virologist and first author of the study.

"This is important because moderate [gum disease](#) is present in more than 50 percent of the world population. It is known that severe gum disease leads to generalized inflammation and a number of other health complications, but the conditions that we created were moderate and they were mainly localized in the mouth," he added.

"After infection with the simian AIDS virus, the generalized [acute inflammation](#) induced by the virus was exacerbated in the animals with gingivitis, indicating that even mild localized inflammation can lead to a more severe [systemic inflammation](#)," he added.

The study, funded by the National Institutes of Health (NIH) and conducted at Texas Biomed's Southwest National Primate Research Center (SNPRC), appears in the February 2013 issue of the [Journal of](#)

[Virology](#). Collaborators included scientists at the Dental School at UT Health Science Center San Antonio and at Seattle Biomed in Washington State.

Giavedoni and his colleagues studied whether inflammation of the mouth would increase the susceptibility of the monkeys to becoming infected with the monkey AIDS virus. This was based on [epidemiological evidence](#) that shows that infection and inflammation of the genital mucosa increases the chances of becoming infected with HIV by the sexual route.

The scientists induced moderate gum inflammation in a group of monkeys, while a second group without gum inflammation served as a control. After exposing both groups of macaques to infectious SIV, a monkey virus similar to AIDS, in the mouth they did not observe differences in the rate of infection, indicating the moderate gum disease did not increase the chances of getting infected with the [AIDS virus](#).

"However, we did observe that the animals that had [gum inflammation](#) and got infected had more viral variants causing infection and they also showed augmented systemic inflammation after infection; both of these findings may negatively affect the progression of the viral infection." Giavedoni said.

Provided by Texas Biomedical Research Institute

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