

# Pre-chewed food could transmit HIV

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Researchers have uncovered the first cases in which HIV almost certainly was transmitted from mothers or other caregivers to children through pre-chewed food. The source of HIV in the pre-chewed food was most likely the infected blood in the saliva of the people who pre-chewed the food before giving it to the children. The researchers said their findings suggest that HIV-infected mothers or other caregivers should be warned against giving infants pre-chewed food and directed toward safer feeding options.

The cases indicate that physicians and clinics should routinely include questions about pre-chewing food in their health screening of infant caregivers who have HIV or are suspected of the infection. Also, possible cases of [HIV transmission](#) through pre-chewed food should be reported to public health agencies to help increase understanding of the prevalence of such transmission.

Led by Aditya Gaur, M.D., of St. Jude Children's Research Hospital, with colleagues from St. Jude (Marion Donohoe, CPNP), the University of Miami (Charles Mitchell, M.D., and Delia Rivera, M.D.) and the Centers for Disease Control and Prevention (Kenneth Dominguez, M.D., Marcia Kalish, Ph.D., and John Brooks, M.D.), the researchers published their findings in the August 2009 issue of the journal *Pediatrics*. Gaur is an assistant member of the St. Jude [Infectious Diseases](#) department.

Giving infants pre-chewed food has been reported to transmit infections such as [streptococcus](#) and the hepatitis B virus, Gaur said. However, until these cases there was no evidence that the blood-borne HIV could

be similarly transmitted. The source of blood in the saliva of the person pre-chewing the food for the child may likely have been visible or microscopic bleeding from the gums or some other part of the mouth, he added.

In their paper, the researchers described three cases in which pre-chewed food was likely the source of HIV transmission to infants.

The case that led to this published report was a 9-month-old infant who was referred to St. Jude because she was HIV positive after earlier tests had been negative.

“Her HIV-positive mother had not breastfed her, and further investigation had ruled out transmission by blood transfusion, injury or sexual abuse,” Gaur said. Also, genetic testing, led by Kalish at the CDC, showed that the daughter had been infected with the same HIV strain as the mother.

“Fortunately, the St. Jude nurse practitioner, Marion Donohoe, was very thorough in her questioning about feeding practices, and she asked about pre-mastication. It turned out this mother had fed her daughter pre-chewed food,” Gaur said.

When Gaur contacted Dominguez at the CDC about the possible case of transmission via pre-chewed food, the center alerted him to two similar cases previously reported by senior author Mitchell and colleague Rivera from the University of Miami. Those cases were not reported to the public at the time because of the lack of sufficient evidence of transmission via pre-chewed food. One case involved pre-chewing by an HIV-infected mother, and the other an HIV-infected aunt who was the caregiver.

Gaur said that information in the three cases suggests that one factor

aiding such transmission was mouth bleeding in the caregiver, as well as in the infant due to teething or infection. He also said caregivers' lack of adherence to their own drug-treatment regimens probably increased their blood HIV levels, increasing the likelihood of transmission.

“These three cases are persuasive enough that they justify cautioning HIV-positive caregivers against giving infants pre-chewed foods,” Gaur said. “Also, we hope increased awareness of this possible mode of transmission will bring more cases to light and more thorough studies, which can either substantiate or refute this transmission route.” Also important, Gaur said, will be the results of surveys now being conducted in collaboration with other research groups in the United States and abroad to determine the extent of infant feeding using pre-chewed food.

The findings do not warrant a blanket recommendation against pre-chewed food for infants, the researchers emphasized. The practice, which has been reported from many parts of the world including the United States may be integral to providing adequate infant nutrition and grounded in culture and tradition. On a global level, educating HIV-positive caregivers will require cognizance of culturally sensitive issues and potential nutritional consequences linked to pre-chewing, the investigators said. The findings also do not imply that HIV can be transmitted through saliva during oral contact such as kissing. In the cases the researchers studied, HIV transmission was likely enabled by bleeding gums or open mouth sores.

“Importantly, this report does not challenge the accepted belief that saliva does not carry [HIV](#) and that transmission does not occur in kissing,” Gaur said. “The exception is that transmission can occur when the people involved have damaged mucosa in their mouths, and blood is mixed with the saliva.”

Source: St. Jude Children's Research Hospital

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