Multiple shallow ulcers on the distal ileum and throughout the colon were observed during colonoscopy. Yeast forms of *P. brasiliensis* (Figure 1B) and *H. capsulatum* (Figure 1C) were identified in a colonic tissue sample. Intravenous amphotericin B deoxycholate was started and was followed by oral itraconazole, with good clinical response.

The third patient was a 40-year-old woman admitted with a 1-year history of diarrhea and weight loss. Physical examination showed a debilitated patient with mild hepatomegaly. Sputum, stool, and colonic tissue samples obtained via colonoscopy were positive for *P. brasiliensis* (Figure 1D). Amphotericin B deoxycholate was started, but the patient died of sepsis due to *Listeria monocytogenes*.

The fourth patient was a 79-year-old woman admitted with a 1-month history of dyspnea and weight loss. HTLV-1 infection had been diagnosed 12 years previously. A 5-year history of recurrent episodes of fever and cough was elicited. Physical examination revealed a chronically ill patient in respiratory distress with diffuse inspiratory rales. Bronchial washings revealed yeast forms of *P. brasiliensis*, which were also observed in a lung tissue sample obtained via transbronchial biopsy. A chest computed tomographic image showed extensive pulmonary disease with bronchiectasis and cavitary lesions (Figure 1E). Amphotericin B deoxycholate and broad-spectrum antibiotics were started, but the patient did not recover and died a few days later.

To our knowledge, this is the first description of coinfection with *P. brasiliensis* and HTLV-1. Complex host-pathogen interactions modulate the clinical presentation of paracoccidioidomycosis. Patients with the juvenile or subacute form display a predominant type 2 T helper (Th2) cytokine pattern, whereas patients with more chronic forms display a predominant type 1 T helper response [2–4]. HTLV-1 blunts the Th2 cytokine pattern and predisposes to disseminated strongyloidiasis, and there is evidence from observational studies that it increases mortality among patients with tuberculosis [5, 6]. We could not confirm that the widespread paracoccidioidomycosis resulted from HTLV-1–induced cellular immunosuppression. However, the aberrant clinical picture with documented coinfection with multiple pathogens observed in patients 2 and 3 and the severe chronic multifocal presentation observed in patients 1 and 4 suggests the presence of an underlying immunosuppressive condition. Additional studies are needed to evaluate the true association between these 2 conditions, with a focus on the prevalence of the coinfection and the host immunologic response. Clinicians should be aware of this potentially lethal association.

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**Factors Associated with Seropositivity of 2009 H1N1 Influenza in Beijing, China**

To the Editor—During February 2010, a pair-matched case-control study was conducted to explore factors associated with seropositivity of antibody against 2009 H1N1 influenza virus in the general population in Beijing, China. This case-control study was based on an initial serologic survey of 2009 H1N1 influenza that was performed during December 2009. The serologic survey enrolled a total of 856 participants who were selected randomly from outpatients in hospitals (those consulting infection and respiratory departments were excluded), volunteers in a blood donation center, and healthy subjects in a physical examination center. The serum samples were obtained to detect the hemagglutination inhibition antibody against 2009 H1N1 influenza virus, and 127 (14.8%) of the participants had positive antibody results (hemagglutination inhibition titer, ≥40).

In this case-control study, 65 subjects with contacting information available were selected from 127 subjects with seropositivity as case patients, and control subjects were selected randomly from the pool of subjects with seronegativity whose contacting information was available. Control subjects were matched 1:1 with case patients by sex and age (± 1 year for case patients ≥18 years old; ± 3 years for case patients >18 years old). By means of a computer-assisted telephone interview-
ing system, well-trained interviewers used a standard questionnaire to collect information on the demographic characteristics, 2009 H1N1 influenza vaccination, history of influenza-like illness, personal hygiene habits, and daily activity of the participants. By univariate and multivariate conditional logistic regression analysis, we found that the significant independent factors associated with seropositivity of 2009 H1N1 influenza included 2009 H1N1 influenza vaccination (odds ratio [OR], 4.82; 95% confidence interval [CI], 1.23–19.91; \( P = .02 \)), history of influenza-like illness <1 month before serum sampling (OR, 2.53; 95% CI, 1.01–6.25; \( P = .047 \)), and frequent hand washing (OR, 0.214; 95% CI, 0.06–0.74; \( P = .015 \)).

The production of antibody to pathogen is attributed to infection and vaccination. As a novel influenza vaccine, 2009 H1N1 influenza vaccine was able to elicit satisfactory immune response to 2009 H1N1 influenza virus in patients after vaccination, which was demonstrated by some previous studies [1, 2]. This case-control study also illustrated the effect of 2009 H1N1 influenza vaccination by the determination of the OR. The epidemic peak of 2009 H1N1 influenza in Beijing occurred in November 2009, according to influenza surveillance in Beijing. Therefore, we considered that a large number of case patients with 2009 H1N1 influenza in Beijing could have been infected during that period, and this could be the reason why a history of influenza-like illness <1 month before serum sampling (December 2009) was associated with seropositivity in the general population. Hand washing was considered to be very efficient at preventing infectious respiratory diseases [3, 4], and in this study, frequent hand washing was shown to be negatively associated with seropositivity, which indicated that this behavior is also efficient at preventing 2009 H1N1 influenza.

Our findings suggest that to prevent 2009 H1N1 influenza, the pandemic influenza vaccination program should be promoted in the general population. Also, health education on hand washing must be strengthened in the future.

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**Premastication: A Possible Missing Link?**

**To the Editor—** The search to understand the counterintuitive but consistent finding that exclusive breast-feeding is associated with a lower risk of postnatal mother-to-infant transmission of human immunodeficiency virus (HIV) than mixed feeding continues without a clear or convincing resolution [1–5]. Detailed insight into the mechanism(s) underlying this repeated observation would hopefully allow effective intervention. Babies receiving mixed feedings may develop more frequent or severe enteric infections [6–10], allowing less ingested HIV to be more efficiently infectious. Foods other than breast milk may differentially alter gastric pH and other alimentary defenses against HIV in the gastrointestinal tract of exposed infants.

Somewhat surprisingly, the discussions around this issue have for the most part ignored associated behavioral practices that may at least partially explain the paradox [11, 12]. In her informative editorial, Kuhn [4] asks “why are women who exclusively breast-feed less likely to transmit HIV during breast-feeding?” Perhaps the complementary question addressing why women who intermittently breast-feed are more likely to transmit HIV than women who exclusively breast-feed would better guide us toward the elusive answer. In this context, some data suggest a direct quantitative relationship between the likelihood of HIV transmission and the degree of feeding other than at the breast [3, 13].

Premastication of solid foods by nursing mothers prior to its being fed to infants appears to be commonplace among diverse cultures around the world [14–17] and may be customarily practiced to supplement breast-feeding (particularly during weaning) in resource-constrained regions where clean water and baby formula are not readily obtainable [6, 7, 18]. Especially in mothers with periodontitis and generally poor dental hygiene [19], premastication likely results in the mixing of bacteria, blood, and saliva with the chewed food [14, 20]. Oral secretions seem to be a rare vehicle for HIV transmission between adults [21, 22]. However, the transfer of infectious particles coated by a food bolus into the immature gut of the child has been linked to transmission of human herpesvirus 8 and HIV from infected mothers to their offspring [16, 23], which may be further enabled by co-