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INSIDE

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This Just In—A Message from Cuba

SPECIAL COVERAGE

At the end of february, i had an opportunity to travel within cuba for the American Council of Learned Societies to review funding proposals in collaborative projects for U.S.-Cuban exchange in the social sciences, as well as the natural sciences. Being "the token" science person, I reviewed several HIV projects and was struck with the differences in Cuba's approach to AIDS since my last visit in 1983. At that time, I gave a lecture about HIV at "Instituto Pedro Kouri" and was bluntly told that homosexuality and drugs did not exist on the island, so AIDS would never become an imposing issue.

In 1985, when the first cases of AIDS occurred among international workers returning from Angola, Cuba allotted 310 million U.S. dollars for HIV testing equipment. In 1986, the Cuban Ministry of Health instituted HIV screening for large segments of the population and mandatory quarantine of HIV-positive citizens at a sanitarium in Havana. Mandatory tracing and testing of sexual contacts for people identified as HIV positive is considered by Cuban officials to be the reason for the lowest HIV prevalence reported in our hemisphere. As of June 1997, Cuba reported 1609 HIV-positive citizens out of a population of 11 million; now, the official number is 2500 (personal communication—Dr. Gustavo Kouri).

This policy drew charges of human rights violations, and, in response, the Cuban AIDS program evolved. Dr. Jorge Pérez Avila was effectively made director and liberalized the policies of the Sanitaria, as well as overseeing the construction of 13 additional Sanitaria in each province of Cuba. This allowed HIV-positive residents to move closer to their communities, setting the stage for the alternative, ambulatory HIV care which began in 1993. Strong educational programs were coupled with condom initiatives—the latter initiative fraught with cultural difficulties in acceptance.

Public health and universal access to free medical care have been priorities for Fidel Castro's government since its inception in 1959. Polio, malaria, tetanus, diphtheria, and human rabies have been eradicated from the island. Preventive health care is delivered by general practice doctors and nurses through the "Family Doctor Program" (in which one doctor and one nurse are assigned personal responsibility for each neighborhood of 100-200 Cuban families). They are required to design preventive health education programs for the neighborhood and are held accountable for any deaths or disabilities that occur in their assigned neighborhood. Cuba now has twice as many physicians per capita than the United States and an infant mortality rate of 7.9/1000 births.

The U.S. embargo has begun to encroach upon the health of Cuban citizens by engendering widespread drug and equipment shortages. Mergers of European suppliers with U.S. companies have suddenly cut off parts and equipment, including supplies of reagents for blood work involved in monitoring CD4 counts for HIV-infected patients. Protease inhibitors made by U.S. pharmaceutical companies are totally unavailable unless mailed by family members.

Currently, most people newly diagnosed with HIV infection are asked to enter the Sanitaria for six months to a year at which time they participate in an intensive course covering mental and physical hygiene, and safe sexual practices, and in which they are given expensive medical regimens, such as AZT and DDT for free. Sanitaria residents received their full wages or public assistance without working, received above average housing accommodations, and a supplemented diet with animal protein and calories (a diet that is currently strictly rationed for the general population). In contrast, ambulatory patients must support themselves financially although they are all eligible for both special protein rations and medications free of charge.

On a personal note, I was struck with the difference in the healthcare system between Cuba today and 15 years ago. The human consequences of our embargo are all too evident on the wards of the hospitals, and in the faces of children lacking medications for treatable diseases such as leukemia, heart diseases, and even diabetes when serious shortages of insulin occur. Sharp declines in food imports and agricultural machinery have resulted in significant signs of nutritional deficits, most notably in the 1993 neuropathy epidemic that temporarily blinded more than 50,000 Cubans, but also with the dramatic decrease in median weight of both children and adults as foods at workplaces and schools are cut back and food supplies become scarce.[1]

To end on a more hopeful note, I was struck by the increasing tourist trade in Cuba and the openness to discuss the failures of the revolution as well as its successes. The recent Clinton initiative is widely seen as a meaningless gesture culminating in a baseball game and transfer of money to relatives of exiles whom have been already receiving assistance. Clearly, the Cuban health system has been crippled by our embargo, yet the courage, dedication, and spirit of our Cuban healthcare colleagues is inspiring. I can only hope for the day our government realizes economic sanctions for political purposes have a profound effect on the health and nutrition of innocent children as well as adults. —**michele barry, md**

Reference

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Editorial comment— *"Eisenberg (N Engl J Med 1997;336:1248-1250) has correctly pointed out that the primary cause of these epidemics in Cuba is the U.S. restriction on trade, and he reminded physicians that, like John Snow petitioning the Board of Guardians of St. James Parish to remove the handle of the contaminated Broad Street water pump to control the cholera epidemic in London, we have a responsibility to petition authorities to remove known causes of epidemics.*

"In the early days of navigation, the yellow flag indicating an epidemic aboard ship was respected by all nations regardless of the vessels' nationality. This international respect for epidemic diseases led in turn to the development of public health policies that go beyond the internal political interests of a given nation. Examined from the public health perspective, the inflexible position of the U.S. government in maintaining a restrictive policy—unambiguously calculated to cause harm to the health of another nation—appears unduly vindictive and inconsistent with the United States' tradition of justice and respect of freedom."[1]

Characteristics of the Family Doctor Program include which of the following?

a. One doctor and one nurse are assigned personal responsibility for each neighborhood of 100-200 Cuban families.
b. The doctor and nurse are required to design preventive health education programs for the neighborhood.
c. The doctor and nurse are held accountable for any deaths or disabilities that occur in their assigned neighborhood.
d. All of the above

HIV Precautions for Traveling Medical Personnel

ABSTRACT & COMMENTARY

Synopsis: *Many senior medical students from London who did overseas electives were unaware of the high HIV endemicity in the areas they visited. Most did not take gloves or HIV medications, and some experienced significant body fluid exposures.*

Source: Gamester CF, et al. Medical students' risk of infection with bloodborne viruses at home and abroad: Questionnaire survey. *BMJ* 1999;318:158-160.

British medical students often travel overseas for senior year clinical electives. Claire Gamester, a student, surveyed 148 of her colleagues. Despite pre-

Table

Basic and Expanded Postexposure Prophylaxis Regimens

Regimen Category	Application	Drug Regimen
Basic	Occupational HIV exposures for which there is a recognized transmission risk (*see Figure*).	4 weeks (28 days) of both zidovudine 600 mg every day in divided doses (i.e., 300 mg twice a day, 200 mg three times a day, or 100 mg every 4 hours) **and** lamivudine 150 mg twice a day.
Expanded	Occupational HIV exposures that pose an increased risk for transmission (e.g., larger volume of blood and/or higher virus titer in blood) (*see Figure*).	Basic regimen plus either indinavir 800 mg every 8 hours or nelfinavir 750 mg three times a day.*

**Indinavir should be taken on an empty stomach (i.e., without food or with a light meal) and with increased fluid consumption (i.e., drinking six 8 oz glasses of water throughout the day); nelfinavir should be taken with meals.*

Reprinted with permission from: CDC. Public health service guidelines for the management of healthcare worker exposures to HIV and recommendations for postexposure prophylaxis. *MMWR Morb Mort Wkly Rep* 1998;47:1-28.

pared protocols to help students deal with virus exposures, only 58% of the 65 students who visited areas of relatively high HIV endemicity were aware of the HIV endemicity in the area they visited. One-third of students who knew they were visiting high HIV-prevalent areas took "starter packs" of zidovudine with them, and half carried latex gloves. Four students had percutaneous or mucosal exposures to blood or other body fluids during the elective; three of these were in sub-Saharan Africa. Only two of the four knew the HIV status of the exposing patient, and only one of the four took post-exposure zidovudine. Gamester and colleagues suggest that traveling medical students be better protected from infection with blood-borne pathogens.

COMMENT BY PHILIP R. FISCHER, MD, DTM&H

Many of our pretravel consultation clients are humanitarian volunteers and healthcare professionals. Their overseas experience could put them in contact with the secretions and body fluids of diverse members of various population groups. In some overseas settings, HIV testing, let alone treatment, is unavailable.

Are traveling health workers adequately prepared? Apparently not. Despite academic expertise and planned protocols, senior medical students (and, presumably, their faculty advisors) from London were often unaware of HIV endemicity—unprepared to receive post-exposure HIV prophylaxis, and not uncommonly exposed to blood-borne pathogens. In fact, some even undertook risky electives (obstetrics and gynecology in areas where 32% of pregnant women are HIV positive) that were prohibited by the sponsoring institution.

Australian students have not typically carried post-exposure HIV prophylactic medicines.[1] While there are no reliable data about American practices, anecdotal experience would suggest that neither the knowledge nor the practice differ much between British students and American humanitarian workers. Certainly, foreign travel involves health risks, and not all of these health risks can be avoided. But, behavioral and medical intervention can be effective.

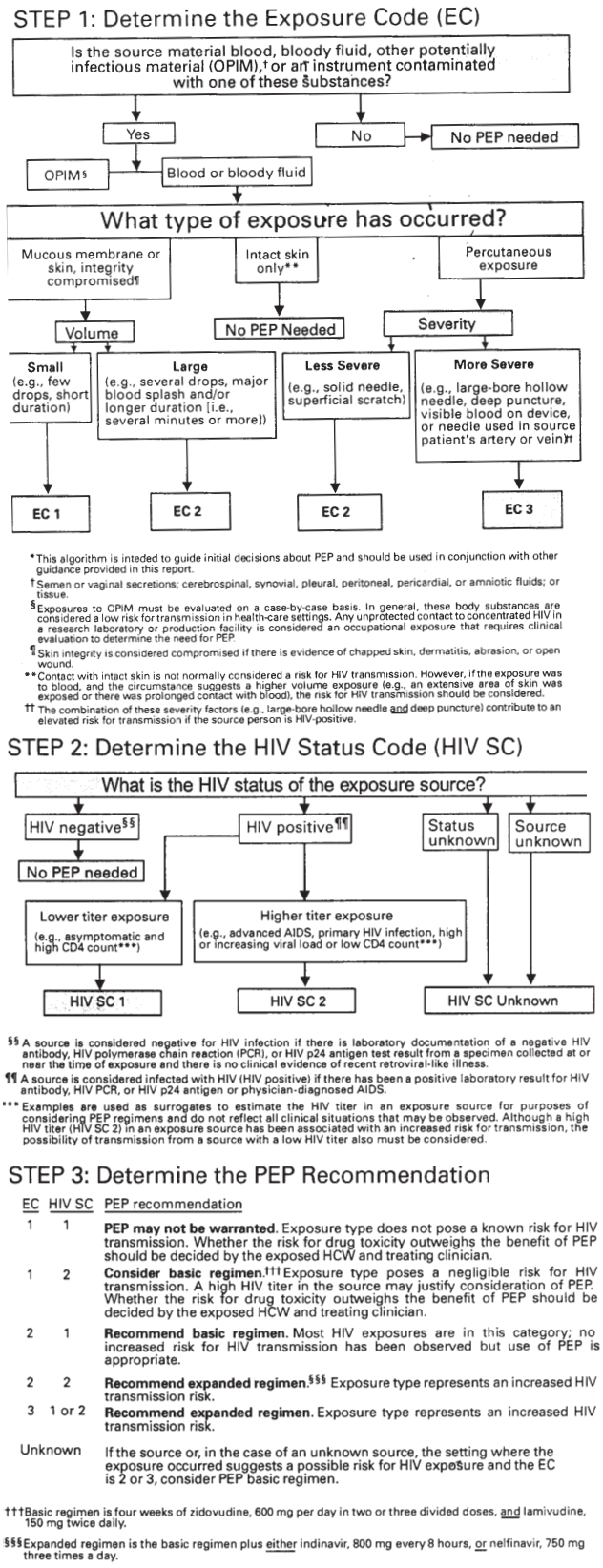
How can the risks of blood and percutaneous exposure be minimized? First, visiting medical workers should only be doing procedures (phlebotomy and surgical intervention, for instance) for which they are well-trained and with which they are familiar. Second, latex gloves and protective eyewear should be taken on the trip and used. Third, attention should be paid to prudent carefulness when in emotional situations and when sleep-deprived or jet-lagged. Regardless of HIV status or endemicity, needlestick precautions might also halt the transmission of other infections such as dengue.[2]

When post-exposure therapy is indicated, what prophylactic regimen should be followed? The CDC released new guidelines in May 1998.[3] Following CDC advice, post-exposure HIV prophylaxis decisions would be based on the sort of exposure incurred as well as the source of the exposure. Following most mucus membrane and transcutaneous exposures from sources with unknown serostatus or known HIV positivity, a "basic" regimen of zidovudine and lamivudine would be recommended for 28 days. For significant exposure (deep penetration with open-bore contaminated needle) or for exposure to high titer subjects, an "expanded" regimen would also include indinovir or nelfinavir as a third drug. Details of the CDC recommendations are summarized in the Table and Figure.

Some of the British students found the $70 cost of zidovudine prohibitive. (Monotherapy was suggested for those going to areas with little antiretroviral experience

Figure

Determining the Need for HIV Postexposure Prophylaxis (PEP) After an Occupational Exposure*[3]



Reprinted with permission from: CDC. Public health service guidelines for the management of healthcare worker exposures to HIV and recommendations for postexposure prophylaxis. *MMWR Morb Mort Wkly Rep* 1998;47:1-28.

and, presumably, minimal zidovudine resistance.) Cost considerations weigh more heavily when multi-drug therapy is advised.

How can a travel clinic facilitate compliance with a regimen with a four-figure cost? Some simply offer the prescription and leave it to the client to purchase the medications or risk serious consequences. Others provide the pills in exchange for a check to cover the cost; the check is exchanged for the pills, if unused, following the trip. Others, following British logic, prescribe shorter courses of monotherapy.

The original Good Samaritan (Luke 10:25-37) apparently did not wear gloves while bandaging the wounds of a needy foreigner. Nonetheless, he did accept a personal cost for the privilege of making a humanitarian gesture. Agreeing with a *British Medical Journal* editorial, we would not want to discourage travel to see and participate in medical work in developing countries.[1] But, in a world of blood-borne pathogens, present day "good samaritans" should be advised and encouraged to decrease body fluid exposures and to carry post-exposure HIV chemoprophylactic medications. ❖

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Which of the following is true for healthcare workers visiting foreign countries?

a. Percutaneous exposure to patients' body fluids is rare.
b. Most medical students are well informed about HIV risks.
c. Recent guidelines for post-exposure HIV prophylaxis are available from the CDC.
d. Humanitarian workers routinely carry HIV monotherapy "starter packs."

Corporate Travelers

ABSTRACT & COMMENTARY

Synopsis: *In spite of pretravel advice, food/water precautions and malaria chemoprophylaxis were not followed consistently by corporate travelers. The most com-*

mon travel-related health problems encountered by corporate travelers were diarrhea and upper respiratory infections. Travel health kits appeared to be beneficial.

Source: Kemmerer TP, et al. Health problems of corporate travelers: Risk factors and management. *J Travel Med* 1998; 5:184-187.

A retrospective study using an electronic survey was conducted in 1994 with the employees of the Coca-Cola company who had traveled internationally during the prior six months. The survey consisted of 30 questions and examined the health risks encountered, compliance to pretravel health recommendations, and illnesses or injuries that occurred. Data were analyzed by using EpiInfo software (CDC, WHO).

A total of 226 travelers responded out of 350 surveys sent. All travelers received medical consultation from a university-affiliated travel clinic prior to travel, and some received further evaluation from a nurse at the Coca-Cola company. The mean age of the respondents was 41 and 77% were male. Eighty-four percent of the population were U.S. nationals. One hundred fifteen travelers (51%) carried the travel health kits provided by the medical department at the Coca-Cola company.

Diarrhea was the most common illness reported, affecting 35% of the travelers. Although most travelers ate meals at their hotels and chose foods that were cooked and still hot, more than half also ate foods that remained at room temperature for prolonged periods (69%). Sixty-nine percent ate from hot buffets and 53% ate from cold salad bars. Nineteen percent of the travelers also ate from street vendors, and many ate raw meat (13%) or raw or poorly cooked seafood (17%). The majority of travelers drank bottled soft drinks. Seventy-six percent also drank alcohol and 75% drank noncarbonated bottled water. Almost half drank tap water (48%).

Risk factors associated with diarrhea included: eating at fast-food establishments, eating room-temperature foods, eating raw fish or meat, and eating at buffets. Drinking tap water was not a risk factor for diarrhea, regardless of whether the individual boiled, filtered, treated, or did not treat the water.

Other common problems included upper respiratory infection (29%), skin rashes (10%), fever (7%), vomiting (4%), and musculoskeletal injuries (3%). There were no cases of hepatitis in these travelers. Twelve percent of the travelers sought medical treatment for their illnesses or injuries. Of those who traveled to malarious areas, 43% admitted to noncompliance with antimalarial recommendations.

Fifty-one percent of the travelers used the travel health kit. The items most frequently used were analgesics (33%), antidiarrheal agents (28%), sinus medication (27%), insect repellent (24%), and sunscreen (21%). The respondents felt that the most helpful pretravel advice were food and beverage precautions, immunization information, and the provision of prescriptions for medications needed during travel.

COMMENT BY LIN H. CHEN, MD

As more companies expand globally or merge with companies from other countries, more of their employees will need to travel internationally. Although studies have been done on health problems encountered by international travelers, little information is available on corporate travelers, specifically. This study by Kemmerer and associates examined the health risks encountered in a group of corporate travelers who had received pretravel consultation.

This survey was conducted via electronic mail. With a response rate of 65%, this indicates that electronic mail may be effectively used in the future for similar types of studies. Results of this study showed a pattern similar to other travelers.[1-3] For comparison, a recent study explored the effect of travel-related health problems in more than 2000 individuals who had consulted the Zurich University Travel Clinic prior to visiting a developing country. This survey showed that more than one-third (37.9%) of the travelers experienced travel related illness, with 10.6% of individuals seeking medical consultation. Incapacitation was reported by 14.4% of travelers, accounting for 2% of time abroad.[1] The most common health problems experienced by this group of travelers were also diarrhea and the common cold.

Kemmerer et al found that 35% of the corporate travelers experienced traveler's diarrhea, which appeared to be even more common than in other studies, and they also identified the risks for traveler's diarrhea. It was interesting to find that in spite of pretravel advice received, many travelers still took risks in what they ate and drank. While drinking tap water did not appear to be a risk factor for traveler's diarrhea, the travelers may have consumed tap water only in relatively safe areas such as western Europe.

One notable finding in the current report is the low incidence of hepatitis (no cases) associated with travel. A survey of 10,524 Swiss travelers from 1981-1984 found that hepatitis occurred at an incidence per month abroad of 4/1000.[3] The low incidence of travel-related hepatitis in the employees of the Coca-Cola company may indicate efficacy of immunizations against hepatitis, but more detailed data are needed.

The travel health kit appeared to be beneficial and was used by every traveler who possessed one in this study. The remedies for common ailments may enable the corporate traveler to continue working and minimize

loss of time on a tight schedule. The cost effectiveness of distributing travel health kits to employees is clearly worth evaluating.

It seems that the recommendations on food and water precautions and malaria chemoprophylaxis were followed haphazardly. Kemmerer et al point out that psychosocial stressors may have influenced the compliance with pretravel recommendations. The reasons accounting for such poor compliance need further attention. The point should not be lost on those advising corporate travelers during their business travel. ❖

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3. Steffen R, et al. Health problems after travel to developing countries. *J Infect Dis* 1987;156(1):84-91.

Which of the following statements is true?

a. Corporate travelers are less likely to develop diarrhea than the general traveling population.
b. Corporate travelers are more likely to rigorously follow the pretravel advice given to them.
c. The most common travel-related health problems for corporate travelers are diarrhea and the common cold.
d. Eating raw or poorly cooked fish is not a risk for acquiring traveler's diarrhea among corporate travelers.
e. Malaria chemoprophylaxis was taken faithfully by nearly all corporate travelers, because they cannot afford to lose a day of work while abroad.

The Relationship Between Strongyloidiasis and Human Retroviral Infections—So What is it?

ABSTRACTS & COMMENTARY

Synopsis: *Two recently published papers indicate potential relationships between severe forms of strongyloidiasis and retroviral infections such as HIV and HTLV-1. However, unless coinfections with more than one retrovirus are excluded, the literature may soon become filled with conflicting case reports and series as illustrated by the simultaneous publication of the following two papers.*

Sources: Ferreira MS, et al. Strongyloidiasis and infections due to human immunodeficiency virus: 25 cases at a Brazilian teaching hospital, including seven cases of hyperinfection syndrome. *Clin Infect Dis* 1999;28:154-155; Gotuzzo E, et al. *Strongyloides stercoralis* hyperinfection associated with human T cell lymphotropic virus type-1 infection in Peru. *Am J Trop Med Hyg* 1999;60:146-149.

What is the relationship between human retroviral infections and strongyloidiasis, if there actually is any such relationship to be concerned with? The expectation had been that strongyloidiasis would emerge as an important opportunistic nematode infection during the AIDS pandemic. Well, has it? Can one demonstrate the association by simply looking at concurrent HIV-1 infections and strongyloidiasis? It's apparently not that simple. Perhaps we need to be looking more closely at regions of the world in which other retroviruses, such as HTLV-1 and strongyloidiasis, are endemic. Ferreira and colleagues note that relatively few cases of disseminated strongyloidiasis have been recognized in patients with AIDS, even when the literature from tropical countries is examined. They report 25 cases of strongyloidiasis in a population of HIV-infected patients, including seven with hyperinfection observed over a 77-month interval at a Brazilian teaching hospital. In their population of 650 adults and adolescents, with at least two positive ELISA tests demonstrating HIV seropositivity, larvae of *S. stercoralis* were found in the stools of 23, sputum of two, and/or on postmortem examination in five patients, for a total of 25 cases (3.85%). Most patients were male (80%), and fever, diarrhea, or cough were commonly observed, although not necessarily related to strongyloidiasis since other opportunistic infections were also present. *Larva currens* were observed in four individuals, and only four patients had elevated eosinophil counts of 400/µl.

Seven cases, all of whom died, were diagnosed as strongyloidiasis with hyperinfection, based upon either postmortem findings or detection of larvae in sputum of two patients. Although postmortem examinations did show extensive involvement of the gastrointestinal tract and lungs, larvae were not found outside their normal migration pattern. What contribution the presence of strongyloidiasis made to their demise was unclear to Ferreira et al. Results of blood cultures, if any, were not reported.

Albeit not disseminated strongyloidiasis, Ferreira et al attributed the presence of extensive infection, higher parasitic burdens, and increased migration of filariform larvae from the gastrointestinal tract into the lungs, to depressed immunity secondary to HIV infection. No data were reported in this study regarding the serological status of these patients for HTLV-1 infection, and the prevalence of strongyloidiasis at this teaching hospital, as it appears in a group of HIV-seronegative patients, was not

reported.

Gotuzzo and associates conducted a study in Lima, Peru, at the Cayetano Heredia Hospital where they investigated a group of patients who presented with strongyloides hyperinfection defined as a systemic illness with chronic diarrhea, abdominal pain, weight loss, cough, edema, hypoproteinemia, and anemia with two or more organs involved (usually lung, intestines, liver, and the central nervous system) and stools demonstrating *Strongyloides larvae*, along with at least one sputum. In this case-control study, the seropositivity rates for HTLV-1 in patients with hyperinfection (18/21, 85.7%) were significantly higher than those obtained in two control groups. These included healthy age- and sex-matched controls (1/21 seropositive, 4.7%) and patients with intestinal strongyloides infection (6/52 seropositive, 9.7%). As in the first study by Ferreira et al, more than 90% of their reported cases of strongyloides hyperinfection did not demonstrate eosinophilia. More importantly, Gotuzzo et al specifically state in their discussion that none of their patients had concurrent HIV infection.

COMMENT BY FRANK J. BIA, MD, MPH

It is probably well known to our readers that *S. stercoralis* filariform larvae can autoinfect their human hosts and lead to chronic infections with an ability to both hyperinfect and disseminate within immunosuppressed patients. Transplant recipients, those receiving corticosteroid therapy, or those with underlying immunosuppressive states, such as severe malnutrition, are also at risk. As mentioned earlier, it had been expected that in the AIDS era strongyloidiasis would emerge as a major opportunistic infection, in both its hyperinfective and disseminated forms. The latter scenario would potentially carry enteric bacteria out of the gastrointestinal tract, threatening yet another serious opportunistic parasitemia and bacteremia.

This has not been the case. In fact, any association between more severe forms of strongyloidiasis and retroviruses appears to be with a different retrovirus, namely HTLV-1. It is not known why this occurs, but there are several problems in the report by Ferreira et al from Brazil. They have no control group of HIV-uninfected patients and do not report the prevalence of various forms of strongyloidiasis in such a group for their region of Brazil. It may conceivably be no different from their study group of HIV-infected patients. More importantly, they do not indicate the serological status of their patients with strongyloidiasis with regards to HTLV-1 infection.

Why is this important? The patients reported in the first article by Ferreira et al were largely male drug users and a third were either homosexual or bisexual. As early as 1989, Cortes and colleagues had reported seroepidemiological data on coinfections with HIV-1, HIV-2, and HTLV-1 on 704 patients in Brazil. They reported the prevalence of HTLV-1 infections ranged from 1% in rural female prostitutes to 13% in HIV-1 seropositive men with bleeding disorders in Rio de Janeiro, Brazil.[1] In fact, combined HIV-1 and HTLV-1 infections occurred in between 1% to 11% of some male groups when studied by them more than 10 years ago. By 1995, Domingues et al had reported 45 cases of HTLV-1 associated myelopathy/tropical spastic paraparesis in Sao Paulo, Brazil.[2] However, as recently as 1996, Broutet and colleagues reported the prevalence of HTLV-1 antibodies in more than 2700 persons tested during 1993-1994 in the northeastern city of Fortaleza, Brazil. The prevalence ranged from 0.12% in pregnant women to 1.21% in female commercial sex workers.[3] It is not possible to show an association between any form of strongyloidiasis and HIV-1 or HIV-2 infection without also providing information about the serological status of such patients with regards to HTLV-1 infection. In contrast, the discussion provided by Gotuzzo et al indicates that none of their cases of *S. stercoralis* hyperinfection associated with HTLV-1 seropositivity were coinfected with HIV. That is important information since the potential for coinfection exists in association with high-risk sexual behavior, Japanese origin, and Quechua ethnicity—all known risk factors for HTLV-1 infection in Peru, as pointed out by Gotuzzo et al. Clearly, local social conditions, ethnicity, and behavioral risk factors influence the potential for coinfections. However, if we are to make any sense out of purported associations between potentially opportunistic parasitic infections and retroviral infections, studies must rigorously define the serological status of their study groups with regard to known retroviruses. ❖

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3. Broutet N, et al. Prevalence of HIV-1, HIV-2 and HTLV antibody in Fortaleza, Ceara, Brazil 1993-1994. *Int J STD AIDS* 1996;7:365-369.

An association between either hyperinfection or dissemination of the nematode, *Strongyloides stercoralis*, has been shown in all of the following conditions except one. Which clinical state has not been proven to be associated with either of these syndromes?

a. Immunosuppression in renal allograft recipients.

b. HIV-1, HIV-2 coinfections occurring in South America.
c. HTLV-1 infections, whether clinically evident or serologically determined.
d. Severe malnutrition.
e. Prolonged and intense corticosteroid therapy.

highly effective and has a very low incidence of serious side effects. ❖

Brief Report

Rabies in Nepal

Source: Pandey P, Rotivel Y. ProMed-mail, Dec. 21, 1998.

On dec. 9, 1998, four persons died from rabies in Dang district, western Nepal. All had been bitten by rabid dogs a few months earlier and had undergone a 10-day course of Sheep Brain BPL antirabies vaccine as supplied by the government. However, the victims did not receive Rabies Immune Globulin (either human or equine). (Altogether in 1998 to date, 1000 people have received treatment for dog bites in the Dang area of Nepal.)

Doubt has been cast on the possibility of vaccine failure in these cases; however, there are reminders from various specialists that this may not be the only possible cause of death. Lack of immune globulin, wrong route of administration, bite of neck, face, or head as well as loss of potency of vaccine are alternative causes. Also, some of the deaths could be due to vaccine-related complications that are known to apply to the nervous tissue vaccines. Neuroparalytic reactions range from 1:200 to 1:1200 vaccine recipients; 25% of these are reported as being vaccine recipients, and 25% of these are reported as being fatal. (Source: Prativa Pandey, Medical Director, CIWEC Clinic, Kathmandu and Yolande Rotivel, Chief of the Rabies Treatment Centre, Institut Pasteur, Paris via ProMed-mail 21/12/98). NB: The human diploid cell vaccine (HDCV), routinely used in western countries, is

Attention CME Subscribers

Due to an American Health Consultants error, a mistake has been made with the CME numbering. The numbering should have started over in the January/February 1999 issue. In that issue, questions 14-17 should be questions 1-4. A Scantron form for CME subscribers is enclosed in this issue, which will cover the July/August—November/December 1998 test. We regret any confusion this may have caused. ❖

Disclaimer

The content of the *Travel Medicine Advisor* country-specific handout sheets is in no way intended to replace the medical advice of a trained travel medicine practitioner. Various medical conditions, medications, previous immunization status, itinerary, duration of stay, and proposed activities must be considered before specific recommendations can be made. These handouts are designed to provide supplementary written information and general guidelines regarding health risks, and the potential need for immunizations, medications, and precautions for international travelers. Information contained in these handouts is updated regularly but may not reflect very recent changes in requirements and recommendations for international travel. ❖