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St. Louis Encephalitis New York Style

SPECIAL REPORT

As of september 15, 1999, the cdc had confirmed 11 cases of St. Louis Encephalitis (SLE) acquired in New York City with an additional 65 cases under investigation.[1] The two most recently confirmed cases were in a 15-year-old and a 38-year-old, each of whom were stable or recovering. Nine of the 11 confirmed cases were in adults aged 58-87 years while the other two were ages 38 and 15 years. Eight of the confirmed cases were in residents of Queens, two were from the South Bronx, and one was from Brooklyn.

Three of the 11 patients with confirmed SLE had died and each of the three was an octogenarian resident of the borough of Queens. Malathion spraying of the entire city by helicopters and ground spraying with resmethrine during the dusk and dawn periods of peak activity of the relevant *Culex* mosquitoes was started on September 3rd and will continue until the first hard frost.

SLE is a flavivirus composed of at least three distinct, albeit antigenically indistinguishable, genotypes.[2] It is widely distributed in the western and eastern United States and South America and is also found in Central America and the Caribbean. The virus is trasmitted by *Culex* mosquitoes after amplification in passerine birds; common ones in New York City include house sparrows, pigeons, blue jays, grackles, starlings, and robins. The mosquito believed to be involved in the New York City outbreak is most likely *Culex pipiens pipiens*, which is usually found near domestic habitats; larva develop in polluted groundwater while adults may rest in open house foundations and urban storm sewers.

SLE transmission in the western United States is usually rural and occurs perennially at a low, but relatively persistent, level while in the eastern United States, transmission is predominantly urban and is periodic, causing outbreaks after prolonged intervals within an area during which there is limited endemic transmission. As a consequence of these contrasting patterns of transmis-

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sion, seroprevalence rates in the general population are lower in the east than in the west.

COMMENT BY STAN DERESINSKI, MD, FACP

Only approximately 0.3% of infections are symptomatic, with the frequency of symptomatic infection increasing with age, varying from approximately 0.125% in children younger than 10 years of age to 1.2% in individuals older than 60 years of age.[3] The incubation period is estimated to be 4-21 days.[2] Clinical illness may range from a mild, self-limited, influenza-like illness to predominant neurologic involvement manifested as meningitis or potentially fatal meningoencephalitis. Cranial nerve palsies occur in approximately one-fourth of those with neurological disease. Severe life-threatening neurological involvement is more frequent in the elderly than in younger subjects. The fatality rate is reported to be 17% in patients with encephalitis.

Recovery of the virus from cerebrospinal fluid (CSF) is seldom successful. Most diagnoses are based on serological tests; cross-reactivity with other flaviviruses may be problematic in some patients. There is no available antiviral therapy with demonstrated efficacy. Recombinant interferon-alpha has, however, been demonstrated to have some activity in a murine model of infection.[4]

The spraying undertaken in New York is an attempt to interrupt the mosquito-bird amplification cycle of the virus by reducing the adult mosquito population. Large-scale application of larvicidals can be subsequently considered. Surrounding communities are at risk since birds, some infected, travel.

According to *The New York Times*,[5] these areas may, however, be at lesser risk than New York City: "Unlike suburban areas surrounding the city in Connecticut, New Jersey and Long Island, New York does not routinely spray to kill mosquitoes, and does not set traps to keep track of local mosquito populations, leaving city officials without crucial information about viral patterns. When the encephalitis was confirmed last week, the city had to call in experts from Long Island and even borrow malathion, the pesticide sprayed over the weekend, from Suffolk County's Department of Vector Control, the agency that battles disease-spreading pests." New York City's mosquito-control efforts had a budget of $120,000 last year, with two full-time employees and two more available in the summer. In comparison, "Los Angeles County, whose population is 9.2 million compared with New York City's 7.4 million, has a vector-control program with a $6 million budget and about 100 employees." Thus, this outbreak is another example of the consequence of governmental neglect of preventive health services. ❖

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Clostridium Difficile Infection of a Prosthetic Joint

ABSTRACT & COMMENTARY

Synopsis: *A case of a novel infection with C. difficile of orthopedic hardware a year after its placement and the patient's enteric infection is examined.*

Source: McCarthy J, Stingemore N. *Clostridium difficile* infection of a prosthetic joint presenting 12 months after antibiotic-associated diarrhoea. *J Infect* 1999;39:94-96.

Disseminated infection due to *Clostridium difficile* is an anomaly. Case reports of such infection usually warrant publication so that we may remain wary of this ubiquitous pathogen whose reason for such limited invasiveness remains unclear. In this case report from the medicine department at Freemantle Hospital in Western Australia, the anomaly is augmented by the presence of a prosthetic hip. The unfortunate victim was an 83-year-old woman who had fractured her hip and required placement of a Richardson pin and plate (not actually a prosthetic hip!). She had some diarrhea during the admission, incurred a nosocomial pneumonia, and received therapy with ceftriaxone and clindamycin. Twelve days postoperatively she had a positive stool culture for *C. difficile* and received five days of metronidazole. Her symptoms resolved.

During a period of 10 weeks around the time of this patient's hospitalization, there were six additional cases of *C. difficile*-associated diarrhea.

Then, a full 12 months later, she was readmitted with tenderness over the suture line. At surgery there was a large abscess associated with the plate that was removed. *C. difficile* was isolated from the culture. The patient had no enteric symptoms or signs. She was treated with metronidazole.

Pulse field gel electrophoresis (PFGE) analyses of the patient's fecal and hip isolate were identical showing three large bands, a single band, a middle-sized band, and five smaller bands. Strains from other epidemiologically related strains around the time of the patient's first admission had dissimilar banding patterns, suggesting real genetic diversity among strains resident at Freemantle Hospital.

COMMENT BY JOSEPH F. JOHN, MD

The Freemantle doctor is a cooler wind from the west that cools hot summer days in Western Australia. This patient probably wondered what blew into her hip months after it had been plated with steel.

This case of hip hardware infection extends the "spectrum of extraintestinal infection" caused by *C. difficile*. Fortuitous for this case was collection of the first diarrheal strain that eventually was matched to the isolate causing the hip hardware infection. With sensitive molecular methods, we should expect to see case reports nailing down the genetic identity of the causative pathogens. In an earlier literature review of 18 cases of extraintestinal disease prompted by a case of bacteremia from Robert Wood Johnson Medical School—my resident institution—there were only two cases of osteomyelitis. The current paper sites two more cases of osteomyelitis. Details are not provided for the lag time between the enteric infection and the metastatic infection.

Thus, in this case, we have good documentation of a novel infection with *C. difficile* of orthopedic hardware a year after its placement and the patient's enteric infection. PFGE is a tedious but well-proven way to fingerprint isolates of *C. difficile* and it was used to perfection in this case to show the patient had disseminated infection with an enteric strain that ultimately caused the orthopedic infection. There is some surprise to find such genetic diversity in the other hospital strains analyzed since our working concept of *C. difficile* infection in the hospital rests on earlier observations that most pathogenic nosocomial strains are related. Here they clearly were not.

C. difficile is a multiresistant pathogen that may emerge as more problematic if metronidazole, or even vancomycin, resistance supervenes. Extraintestinal infection adds the final wrinkle to the pathogenetic scheme of *C. difficile*. ❖

Contact Lens-Associated Microbial Keratitis

ABSTRACT & COMMENTARY

Synopsis: *The lowest risk of microbial keratitis was found in users of rigid gas-permeable lenses.*

Source: Cheng KH, et al. Incidence of contact-lens-associated microbial keratitis and its related morbidity. *Lancet* 1999; 354:181-185.

Most of the 28 million contact lens wearers in the United States use them for cosmetic reasons as an alternative to spectacles for correcting refractive

errors, as opposed to the small number (3%) who use them for treatment of ocular surface diseases or aphakia. Microbial keratitis, which may result in permanent corneal scarring or perforation, with subsequent permanent visual loss, is the most dreaded complication of contact lens wear. It is usually due to bacteria, though fungi and acanthamoebae have also been implicated.

For this study, a prospective population study was done among all ophthalmologists in the Netherlands (n = 440), who were asked to report all cases of microbial keratitis seen over a 90-day period in 1996. During this interval, 111 cases of keratitis were identified.

Extended-wear soft contact lens (1-2 week disposables) users were almost 20 times as likely to incur microbial keratitis as users of daily-wear rigid gas-permeable lens users. Even daily-wear soft lenses were more than three times more likely to suffer microbial keratitis than rigid gas-permeable lens users. In this study, Serratia and *Pseudomonas aeruginosa* were the most commonly isolated bacteria; only one case of acanthamoeba infection was identified, and there were no fungal infections. Less than half of all cases had any pathogen recoverable from culture.

Infection resulted in five hospitalizations, requiring one excimer laser corneal scar excision and three cases of corneal transplantation due to visual impairment from scar. The patient with acanthamoeba progressed to visual impairment resulting in near-blindness.

Cheng and colleagues note that overnight use of lenses was the primary risk factor for corneal infection and should hence be discouraged. In this population, rigid gas-permeable lenses were associated with the least risk of microbial keratitis. (*Dr. Kuritzky is Courtesy Clinical Assistant Professor, University of Florida, Gainesville, FL.*) ❖

Pharmacology Update

Zanamivir for Inhalation (Relenza—Glaxo Wellcome)

By William T. Elliott, MD, FACP, and James Chan, PharmD, PhD

Just in time for the 1999 flu season, the fda has approved Glaxo Wellcome's zanamivir (Relenza) for the treatment of influenza A and B virus infections. Zanamivir is the first of a new class of antiviral drugs, the sialic acid analogs, which were developed through computer-assisted design. These drugs are believed to inhibit viral replication by inhibiting the viral surface enzyme, neuraminidase.[1] Zanamivir is formulated as an inhaled product that is delivered through a breath activated device.

Indications

Zanamivir is indicated for the treatment of uncomplicated acute illness due to influenza virus (A and B) in adults and adolescents (≥ 12 years of age). Patients should be symptomatic for two days or less.[2]

Dosage

The recommended dose is two inhalations at 5 mg each twice daily, about 12 hours apart, for five days. Two doses should be administered on the first day of treatment (at least 2 hours apart). Treatment should be initiated within two days after onset of symptoms. Patients should be instructed in the proper use of the delivery device and advised to complete the five-day course.[1]

Zanamivir is supplied as powder for inhalation. Each foil pack contains four blisters—each contain 5 mg of zanamivir and 20 mg of lactose. The contents of each blister is inhaled using a Diskhaler.

Potential Advantages

In contrast to amantadine and rimantadine, which are effective against influenza A only, zanamivir is active against influenza A and B although in the clinical trials patients were predominately infected with influenza A.[1] The drug is well tolerated and is generally free of systemic side effects.[2-4] One placebo-controlled study (n = 455) conducted in Australia, New Zealand, and South Africa reported a significant reduction in median time to the symptom relief of 1.5 days (6.0-4.5 days) in patients who initiated therapy within 36 hours of onset based on intent-to-treat analysis. In patients who were influenza positive and febrile, the median reduction was two days (6.5-4.5 days).[3] A small number of high-risk patients (n = 79) had a statistically significant reduction in median time to alleviation of symptoms of 2.5 days (8.0-5.5 days).[3] In influenza-positive patients, zanamivir-treated patients also reported less sleep disturbance and earlier return to normal activity.[3]

Potential Disadvantages

The administration of the drug requires two inhalations of zanamivir powder twice daily. The FDA had some concerns that this delivery system may be cumbersome for some patients and may require some initial training. Patients with underlying respiratory disease

may experience bronchospasm and/or decline in pulmonary function after use of the drug.[2] These patients should have a short-acting beta agonist available when treated with zanamivir.[2] Therapy should be initiated within 48 hours after onset of influenza symptoms, and preferably within 36 hours.

Comments

Zanamivir is the first of a new class of antivirals, the selective neuraminidase inhibitors. Neuraminidase, also referred to as sialidase, is a surface glycoprotein essential for the replication of both influenza A and B viruses.[5] The speculated roles of this enzyme include promotion of the release of virions from infected host cells, prevention of viral inactivation by respiratory mucus, and inducing the elaboration of certain cytokines (e.g., tissue necrosis factor).[5] Animal models indicated that zanamivir reduces viral replication.[1] The clinical benefit of zanamivir is modest. In a study conducted in the Southern Hemisphere (n = 455), zanamivir reduced the median time to symptom relief by 1.5 days when patients initiated treatment within 36 hours.[3] However, in studies conducted in North America (n = > 600), zanamivir reduced the median time to symptom relief by only one day when patients initiated treatment within 48 hours and statistical significance was not achieved.[2] Time-to-symptom improvement was defined as improvement in major symptoms: resolution of fever, headache, myalgia, cough, and sore throat.[2] Findings from clinical trials did not show any difference in the rate of development of complications between treatment groups. The drug has not been adequately studied in patients with high-risk underlying medical conditions. Zanamivir is currently FDA approved for the treatment of uncomplicated acute illness due in influenza. It is not approved for the prevention of illness, although a recent randomized, controlled trial showed the drug to be efficacious in healthy young adults.[4]

Zanamivir-resistant strains have been isolated in vitro; however they have been reported to be less infectious.[1,2,7] The wholesale cost for a treatment course of zanamivir (5 days) is $44.

Clinical Implications

Prior to the approval of zanamivir, only amantadine and rimantadine have been approved for the treatment of influenza. The use of these agents was limited by inactivity against influenza B, rapid development of resistance, and CNS and gastrointestinal side effects. In contrast, zanamivir is active against influenza A and influenza B. It is well tolerated but should be used with caution in patients with underlying respiratory disease. Drug-resistant viruses can appear in about one-third of patients treated with amantadine or rimantadine.[6] In clinical trials of zanamivir, drug-resistant strains have not been a problem.[1,4] The benefit of zanamivir is modest. North American data showed that initiation of therapy within 48 hours failed to produce a statistically different reduction in median time to symptom improvement. Initiation of therapy within 36 hours may improve the efficacy, although it is unlikely that most adults will seek medical care or receive a definative diagnosis of influenza within 36 hours of onset of symptoms. The delivery system may also represent an obstacle to appropriate use in early stages of the illness. An orally active neuraminidase inhibitor is currently in the FDA pipeline.

There are no indications that the drug can reduce complications of influenza illness in patients at risk for these events. Vaccination remains the primary prophylactic means of controlling influenza and preventing sequelae. Patients should not eschew vaccination in favor of treatment after infection. The chemoprophylactic use of zanamivir has not been FDA approved, but neuraminidase inhibitors, especially orally active ones, may eventually have a role in managing influenza outbreaks particularly involving variant strains not covered by the vaccine. (*Dr. Elliott is Chair, Pharmacy Education, California Division of Kaiser Permanente; Assistant Clinical Professor of Medicine, University of California-San Francisco. Dr. Chan is Pharmacy Quality and Outcomes Manager, Kaiser Permanente, Oakland, CA.*) ❖

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Special Feature

Searching Medline with PubMed

Editor's Note: *With this issue, we are introducing a new feature designed to enhance the usefulness of the Internet to you. This article, by Leah Anderson, MLS, provides some basic insights into Medline and PubMed, http://www.ncbi.nlm.nih.gov/PubMed. The next article will provide searching tips for use in PubMed.*

A mandate from congress in 1997 allowed free access to Medline for anyone with an Internet connection. The recipient of the mandate was the National Library of Medicine (NLM), the producer of the Medline database and also a government agency within the National Institutes of Health. NLM fulfills this mandate by providing access to Medline with the PubMed and Internet Grateful Med (IGM) search interfaces. Both are developed and maintained by NLM, and both are accessible via the World Wide Web. This article provides an overview of PubMed and the features that make it unique relative to other interfaces available for searching Medline. Some of these differences are subtle while others are significant, but all have an effect on how well you retrieve the information you are seeking.

The Cost Difference

Searching Medline is not always free. While NLM produces the Medline database and provides free access to it, it also licenses the database to commercial companies, which, in turn, create other search interface programs for Medline. Much of the time, these other programs come at a cost. Some familiar programs are Ovid, SilverPlatter, Knowledge Finder, and Melvyl. Most medical schools purchase a license to provide access to Medline over their networks using these or other applications. Only NLM, as a government agency, was given the congressional mandate to make access to Medline free. Other web-based medical sites may offer "free" Medline simply by linking to PubMed.

The Database Difference

PubMed is a database separate from the traditional Medline database. It was created by combining the Medline database with a bit more. Thus, everything found in Medline will be found in PubMed but the converse is not true.

Deciding which references will appear in Medline is a tightly controlled process. Currently, articles from around 4000 journals are indexed in Medline. However, not every journal has every article included in Medline. Some journals are selectively indexed, meaning that if they contain an article that is not related to biomedicine, it is not included. For most selectively indexed journals, PubMed does not make this distinction. For example, the journal *Science* is selectively indexed in Medline. However, if you search for a geological article from a recent issue of *Science* in PubMed, you will find it. If you search for that article with other Medline interfaces (such as Ovid), you will not find it.

Many publishers have made agreements with NLM to provide references and abstracts to their journals electronically to NLM as soon as an issue is published. This basic information is transferred directly into the PubMed database without any of the usual indexing processes. This greatly increases the currency of PubMed over the traditional Medline database searched with programs such as Ovid or Knowledge Finder, which often have a lag time of 2-6 months for references to appear from recent issues. This is also why all articles from selectively indexed journals will appear in PubMed.

In return for providing electronic references, publishers allow NLM to create PubMed links directly to their web site and to the full text of the article, if available. However, one has access to the full text of an article only if 1) the publisher is providing access to everyone for free such as through a free trial period; or 2) an individual has paid the publisher for full text access or access comes with membership; or 3) the library with which an individual is affiliated has paid for full text access to the journal.

One of the hallmarks of the Medline database is the application of controlled medical subject headings (called MeSH) to each record. MeSH provides a standardized medical vocabulary that can be instrumental in searching the database well. NLM has created a controlled vocabulary that also acts like a thesaurus; it is constructed to provide relationships among terms. These features can be used to search more effectively, and all search software capitalizes on this.

As an example of the value of MeSH, one MeSH heading will be designated as the official subject heading for a disease that is known by several different names. All the names will be mapped to that one official heading. Thus, putting in one name will pull up the articles that discuss the same condition but call it something else. Another example is variant spellings. Medline's subject headings are based on American spellings. Articles discussing "haematology" will be assigned "hematology" as a subject heading. Thus,

anyone searching hematology will pull up articles with the British spelling as well. For a final example, "ancylostomiasis" and "necatoriasis" are both subject headings that can be searched individually. "Hookworm Infections" is another subject heading that encompasses both ancylostomiasis and necatoriasis, and can be used to search more broadly.

Because PubMed includes the Medline database, it includes MeSH and will continue to do so. However, there is a lag period before subject headings are added to new records. It may take up to six months for subject headings to appear for a citation. Furthermore, some records in PubMed will never get subject headings. Nonbiomedical articles from selectively indexed journals will never have subject headings added though the basic record will always remain in the PubMed database.

The Searching Difference

The search engines behind many software interfaces designed to search Medline are based on Boolean logic. In such a system, one searches for term A and term B and term C. One can also exclude terms. The addition of the controlled subject heading vocabulary aids searching tremendously by helping out with variant spellings, multiple names, and in many other ways. In the end, Boolean searching is very mechanical; the terms used must be present anywhere in the record. Context and meaning are often lost in a Boolean system. The application of subject headings often cannot always address these problems. Thus, the number of irrelevant articles retrieved will increase. For example, "cultures" refers to groups of people as well as laboratory tests but all records with this term, regardless of the meaning intended, will become a part of the search. Causal relationships among terms can also be lost. An article discussing how caffeine causes miscarriage will have the same terms and subject headings as an article saying caffeine does not cause miscarriage.

The PubMed search engine tries to overcome many of the limitations of strict Boolean searching. When searching PubMed, you will find that each citation has a link called "See Related Articles." The group of citations pulled up with this link has been predetermined to be similar to the original citation through the calculations of a complex set of algorithms. The algorithms compare the citation to all others in the database, searching for similarities among them in the text of the title, abstract, and MeSH. The algorithms include the proximity of words to each other in the title, abstract, and subject headings, and the number of times a word appears in a record. Weights are scored using this method, and the citations with the most weight are considered as similar. When you find an article that is exactly what you are seeking, click the "See Related Articles" link, and similar articles will appear. (*Ms. Anderson is Medical Librarian for the Health Sciences Library, Sequoia Health Services, Redwood City, CA.*) ❖

CME Questions

21. Which of the following regarding St. Louis Encephalitis (SLE) is correct?
a. SLE is a flavivirus.
b. SLE is transmitted by ticks.
c. SLE is more severe in children than in the elderly.
d. SLE involves pigs as an intermediate host.

22. Which is *not* a characteristic of extraintestinal infection with *C. difficile*?
a. It may involve bone and bone structures.
b. It may be preceded by antibiotic-associated colitis.
c. It does not involve the same strains that produce the colitis.
d. Metronidazole remains an effective therapy.

23. Which of the following statements about zanamivir is *not* true?
a. It should be started as early as possible.
b. It is approved for preventing influenza.
c. It is an oral inhaler.
d. It treats influenza A and B.

24. The lowest risk of microbial keratitis among contact lens users was found in those who wear:
a. extended-wear soft contact lenses.
b. daily-wear soft contact lenses.
c. rigid gas-permeable contact lenses.
d. All of the above

25. The mosquito *Culex pipiens pipiens*:
a. is believed to be involved in the recent New York City outbreak of SLE.
b. is found near domestic habitats.
c. transmits the SLE virus after amplification in passerine birds.
d. All of the above

26. New York City routinely sprays to kill mosquitoes and sets traps to keep track of local mosquito populations.
a. True
b. False

In Future Issues:

Helicobacter Pylori—Another Reason to Floss

UPDATES

By Carol A. Kemper, MD, FACP

Oral Gram Negatives: Transient Visitors

Source: Mobbs KJ, et al. *Chest* 1999; 115:1570-1575.

Oropharyngeal carriage of aerobic gram-negative bacilli (GNB) reportedly occurs in about 10-20% of individuals, although the figures are quite variable, and have been reported to be as high as 61% in semireclusive vegetarian monks (one wonders what they're using for fertilizer). Any gram-negative rod (GNR) in the mouth (e.g., *Klebsiella*, *Enterobacter*) is considered a potential pathogen, but there have been few attempts to distinguish transient oral colonization from persistent carriage. A total of 120 individuals, including student volunteers, nurses, and laboratory personnel, submitted, within 48 hours of the other, two "rinse and gargle" specimens for culture using enriched broth. Quantitatively determined colony counts per mL of saliva using serial dilutions were compared between the groups. Isolation of the same organism from both specimens was indicative of carriage, whereas isolation of an aerobic GNR from a single specimen was considered transient acquisition.

Viridans streptococci, at concentrations of more than 1×10^6 cfu/mL, were isolated from the mouths of all participants. Transient acquisition of yeast was found in 22%, but persistent carriage occurred in only 5%. *Staphylococcus aureus* was isolated from 13% of subjects on one occasion, but was persistent in 5%. In contrast, transient acquisition of aerobic GNB was found in 36% of healthy volunteers, although persistent carriage was seen in only 6.6%. *Serratia* spp. was the predominant organism in persons with persistent carriage, whereas *E. coli* was more frequently a transient colonizer. Only low numbers (1×10^6 cfu/mL) of GNB were detected, on average, in people with transient colonization.

Interestingly, the students, who were generally younger than the other groups, had the highest rate of transient colonization (52%), but the lowest rate of persistent carriage (0%), whereas the older groups had similar frequency of carriage (7.5% and 12.5% for nurses and laboratory workers, respectively). In contrast to earlier studies, these data indicate that, although oropharyngeal exposure and transient colonization to gram-negative pathogens is common, most healthy individuals successfully clear these potential pathogens from their mouths. Progressive age, with the occurrence of more frequent dental and gingival disease, declining health, and smoking, may limit this natural immune function. ■

Cyberspace Sex!

Source: ProMED-mail post, August 25, 1999. www.healthnet.org.

Officials from the san francisco Public Health Department (SFPHD) report the first ever cyberspace cluster of an STD: seven cases of syphilis have been linked to an America Online Internet chat room, San Francisco Men for Men (SFM4M). It is estimated that 100 to 1000 similar such chat rooms are active in San Francisco, which have become an increasingly popular way to meet sex partners, many of whom are anonymous. Sex partners are often known only by their cybernet "handles," or nicknames, for which AOL was unlikely to provide to the SFPHD specific user names without a court order.

The seven men, five of whom were also HIV-infected, reported sexual contact with about 99 other individuals—including one man who had 47 partners. At a loss for how to contact these faceless and nameless individuals, and lacking the necessary cybersex language skills, the SFPHD was put in contact with the chairman of a worldwide online service in San Francisco, called Planet Out. Arrangements were made to post alerts and information about the outbreak whenever a user logged on to the site. In addition, volunteers were trained to enter chat rooms and make idle conversation about the outbreak. Through these mechanisms, about 35 men have been identified, 33 of whom have been screened for STDs. Another one-third of the sexual contacts are believed to have sought medical care from sources other than the PHD, while the remaining one-third may still be unaware of their exposure.

This outbreak occurred against a backdrop of increasingly unsafe sexual behaviors in the gay community in San Francisco. More than 500 new HIV infections were reported in San Francisco last year, although the incidence of syphilis has dropped significantly since the 1980s. The SFPHD and Planet Out have made clever use of the Internet to relay important public service information and safer sex messages. Perhaps other similar online services can be encouraged to provide more of these kinds of "ethnographic" prevention messages for targeting high-risk individuals, as gay men grow weary of the same safe sex messages and the misperception that HIV is no longer the threat it once was. ■

GiardiaVax for Dogs

Source: http://www.healthnet.org/programs/promed-hma/9904/msg00106.html

The u.s. department of agriculture has approved the use of a vaccine in dogs to prevent giardia infection (GiardiaVax). Giardia is estimated to infect 10-20% of dogs, especially those that are bred in larger kennels. Experts believe this poses a potential risk to pet owners and, because of its fecal-oral route transmission, smaller children in particular. The vaccine is presently manufactured by the Fort Dodge Animal Health—recommendations are to vaccinate all puppies at 8 weeks of age, with a booster 2-3 weeks later, and annually thereafter. ■