

Sudden Acute Respiratory Syndrome (SARS)

On the 15th of March, both the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) issued an emergency travel advisory concerning a newly recognized disease syndrome — sudden acute respiratory syndrome (SARS). As of this writing (3/20/03), the number of SARS cases worldwide has been >300 with <15 deaths. Suspected cases of SARS have been recognized in the United States, including Missouri and Kansas. This illness can be severe and, due to global travel, has spread to several countries in a relatively short period of time.

On the 11th of February, the Chinese Ministry of Health notified WHO that 305 cases of acute respiratory syndrome of unknown etiology had occurred in 6 municipalities in Guangdong province in southern China during 16 November 2002 - 9 February 2003. The disease was characterized by transmission to health-care workers and household contacts; 5 deaths were reported (MMWR 52:226, 2003). On the 26th of February, a 47 y old man who had traveled in mainland China and Hong Kong, became ill with a respiratory illness and was hospitalized shortly after arriving in Hanoi, Vietnam. Health-care providers at the hospital in Hanoi subsequently developed a similar illness. The patient died on the 13th of March after transfer to an isolation facility in Hong Kong. During late February, an outbreak of a similar respiratory illness was reported in Hong Kong among workers at another hospital; this cluster was linked to a patient who had traveled previously to southern China.

The etiologic agent of SARS has remained elusive with >250 infectious disease agents having been ruled out. However, in mid-M a r c h , investigators in Germany and Hong Kong independently detected, by e l e c t r o n

microscopy, a paramyxovirus in specimens from patients. The Chinese team announced they had confirmed this finding using molecular genetic techniques.

The paramyxovirus group of agents embraces traditional disease agents, such as measles, mumps, parainfluenza,

Suspect Case: (as of 3/19/03)

Respiratory illness of unknown etiology with onset since the 1st of February 2003, and the following criteria:

- Documented temperature >38 °C (100. 4°F)
- One or more symptoms of respiratory illness – cough, shortness of breath, difficulty breathing, hypoxia, or radiographic findings of pneumonia or acute respiratory distress syndrome
- Close contact* within 10 days of onset of symptoms with a person under investigation or suspected of having SARS or travel within 10 days of onset of symptoms to an area with documented transmission of SARS as defined by WHO.

* Close contact is defined as having cared for, having lived with or having had direct contact with respiratory secretions and/or body fluids of a patient suspected of having SARS.

respiratory syncytial virus, and canine distemper, as well as some more recently recognized agents, such as human metapneumovirus, Nipah, Hendra, equine morbillivirus, and Tioman.

Based on what is known about SARS, close contact with an infected person is needed for the infective agent to spread person-to-person. Close contact with aerosolized droplets and secretions from an infected person appears to be important. The incubation period is believed to be between 3-6 days. To date, 90% of cases have occurred

Locally, suspect cases of SARS should immediately be reported to the Kansas City Health Department (24 hour duty officer pager - 816.717.6721).

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Think Globally, Act Locally

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in hospital workers who have cared for SARS patients and 10% of cases among close family contacts of SARS patients. The case fatality rate appears to be low and, with good supportive care, some SARS cases have improved.

WHO recommends the use of isolation and barrier nursing techniques for patients who have atypical pneumonia and any possible links to the outbreaks and that suspect cases be reported to national health authorities. As an added measure for hospitalized patients, CDC recommends standard and respiratory precautions with use of a personal respirator during any close contact with cases and suspect cases. Standard precautions routinely include careful attention to hand hygiene. Health-care workers should wear eye protection for all SARS patient contact.

CDC quarantine officers are expanding the safety net to meet more flights returning from Southeast Asia. Since the 16th of March, CDC quarantine officers or their designees have been meeting travelers returning directly to the US from Hong Kong on commercial carriers that land at 5 US airports (Chicago, Los Angeles, Newark, New York City, San Francisco) to give them health information in the event they

exhibit symptoms of SARS. No commercial flights return directly to the United States from Hanoi, Vietnam or Goungdong Province China. Quarantine officers or their designees are now meeting passengers landing from Hong Kong in Anchorage and Guam, and coverage has expanded to include travelers returning on commercial flights that have connecting service from affected areas of Southeast Asia and is further expanding to include cargo and cruise ships returning to US ports.

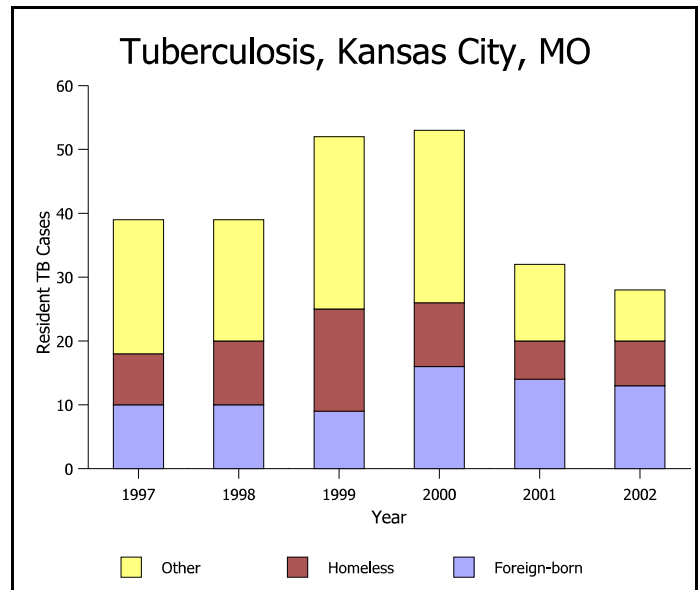
The Hong Kong Department of Health reported that 7 individuals who contracted SARS are now known to have stayed on or visited the 9th floor of the Metropole Hotel in Kowloon in the period between the 12th of February and the 2nd of March. Hotel staff have reported no subsequent illnesses. CDC is in communication with Hong Kong officials as well as WHO investigators as the significance of the hotel connection is explored. Based on this report, as well as experience with the case patients who traveled to Atlanta and New York City, who also stayed in hotels, CDC continues to believe that close contact is an important factor in disease transmission.

Tuberculosis, Kansas City, 2002

Cases of tuberculosis reached an all time historic low in Kansas City during 2002, with 28 cases (27 *Mycobacterium tuberculosis* and 1 *M bovis*) being reported or 6.3 cases/100,000 population. Forty-six percent of these cases were among foreign-born individuals and 25% of the cases were among the homeless. This is a dramatic reversal of the situation in 1999 when homeless persons represented 38% of the TB cases, while only 21% of the cases were among the foreign-born. Tuberculosis in HIV infected persons continued to remain uncommon in Kansas City with only a single case in 2002. Annually, between 1-3 such co-infections are reported.

Twenty-three of the 28 cases (82%) were pulmonary TB, with cavitory disease in 3 individuals. None of the cases had a prior diagnosis of TB and only 4 had prior documentation of latent TB infection. One of the cases was diagnosed at death. Three individuals had strains of *M tuberculosis* that were resistant to single drugs (2 to isoniazid and 1 to pyrazinamide).

Males accounted for 68% of the cases. Eleven percent of the cases were Asians, 14% Hispanics and whites, respectively, and 61% were black. There was a single case in a child <5 y old, while the remaining cases were distributed across the age ranges: 8 cases were 16-34 y old, 4 were 35-44 y, 10 cases were 45-64 y, and 5 were ≥65y old.



Geographically, City council district 3 had the highest rate of TB and district 1 had the next highest rate. Historically, district 3 has the highest rate each year, while district 1 is often 2nd. In descending order, the remaining council districts were district 5, 2, 6, and 4.

The low rate of TB in Kansas City was reflective of the fact that Missouri also recorded its lowest TB rate since records began being kept in 1944. There were 136 cases of TB statewide in 2002, down from 157 in 2001 and 211 the year before.

Nationally, during 2002, a total of 15,078 TB cases were reported to CDC, representing a 5.7% decline from 2001, a

43.5% decline from the 1992 peak of the TB resurgence, and the lowest recorded TB rate in the US since reporting began in 1953. Declines have occurred since 1992 in all age groups, racial/ethnic populations, and regions of the US. Despite this progress, the 2002 rate of 5.2/100,000

population remained higher than the 2000 interim goal of 3.5 set as part of the national strategic plan for TB elimination (<1 case/ 1,000,000 by 2010). In 2002, for the first time, TB cases among foreign-born persons accounted for the majority (51.0%) of TB cases.

Potpourri

Last month's issue of *Community & Hospital Letter* reported on transmission of H5N1 avian influenza viruses to humans in Hong Kong and how this was the 2nd time in recent years that influenza strains of the this type bridged the species barriers from birds to humans. Now there are reports from the Netherlands of another avian influenza virus, H7N7, being associated with conjunctivitis among persons involved in poultry depopulation activities in response to a major epizootic of this influenza in the nation's poultry flocks. Nearly 3 dozen human cases were recognized as of 3/18/03 and there has been 1 incident of human-to-human transmission. The infections do not appear to harm the eye and the lesions are easy to heal. Studies have shown the H7N7 strain to be susceptible to both Tamiflu and Relenza. However, because Tamiflu becomes available systemically, Dutch authorities decided to use it as the drug of choice for both prophylactic treatment of all persons involved directly in the screening and culling of infected flocks and therapeutic treatment for those with H7N7 conjunctivitis (ProMED 3/19/03).

West Nile virus (WNV) is active along the Texas-Mexico border. WNV has been recovered from dead birds in several communities in the Monterrey area. In addition, Mexican authorities are examining specimens for WNV from 4 human meningitis cases, 1 of whom as died (ProMED 3/15/03). In 2002, there were cases of WNV disease in Mexican nationals who had returned from visiting parts of the US where WNV had been active. In addition, there were two clusters of WNV infected horses in northern and east-central Mexico. In 2001, southbound migratory birds in the Yucatan were found to be WNV antibody positive.

Further, the Ministry of Health for the Dominican Republic announced that WNV antibodies were found in resident bird species collected in November 2002 (ProMED 3/15/03). This suggests that WNV may now be endemic in that country.

British authorities announced that a campaign begun in 2001 to encourage Muslims traveling to the Hajj in Saudi Arabia to get vaccinated against *Neisseria meningitidis* appears to be working. Only 6 persons contracted the disease following the 2002 pilgrimage compared to 38 cases in 2001 and 45 cases in 2000. Also, there were no deaths in 2002; there 10 deaths in 2001 and 8 in 2000. An estimated

50,000 Muslims travel from England to the Hajj each year.

Workers in America's nursing homes suffer the highest rate of back and joint injuries of any group of workers in the nation and are now covered under new guidelines issued on the 13th of March by the Occupational Safety and Health Administration (OSHA). The OSHA guidelines provide practical recommendations for employers and target musculoskeletal injuries. Labor groups have criticized the recommendations as the guidelines are only voluntary and do not outline an enforceable ergonomic structure for the facilities. The recommendations replace legal requirements repealed by Congress 2 years ago after businesses complained they were too costly. The guidelines are available at www.osha.gov.

Signs that remind people to wash their hands after using public restrooms tend to inspire women to boost their hygiene, but fail to do so in men, according to researchers at Pennsylvania State University. At the Annual Meeting of the Eastern Psychological Association, the research team reported women tended to use soap and water more often than men, before and after the signs were posted. After the signs were posted, women opted less often for the ineffective strategy of hand rinsing — using only water and no soap — and washed with soap more often. But the signs had no effect on men's tendencies to either wash or rinse their hands after using the restroom.

People who suffer from halitosis may lack "good bacteria" that keep foul-smelling microorganisms at bay, according to researchers at the Harvard Dental School (*J Clin Micro* 41:558, 2003). While not all samples taken from halitosis sufferers had the same bacterial makeup, the researchers determined that the same bacteria — *Streptococcus salivarius*, *Rothia mucilaginosa*, and a strain of *Eubacterium* — were the most prevalent species on the tongues of subjects with fresh breath. The 6 species most associated with halitosis were: *Atopobium parvulum*; *Dialister*; *Eubacterium sulci*; a phylotype of the as yet uncultivated phylum TM7; *Solobacterium moorei*; and *Streptococcus*.

The bacterial composition of the tongue is still not well known. In part, this is because such bacteria are difficult to recover, grow in culture, and to identify by traditional biochemical tests. This study of tongue scrapings, found 92 bacterial species, of which 29 have never before been described in the scientific literature.

Halitosis is a common complaint of up to 1/3 of the general population. It can arise from the sinuses, gastrointestinal tract, ingested food, lungs, and, most frequently, the mouth. It is most commonly associated with by-products of bacterial metabolism on oral surfaces, in periodontal pockets, and on the surface of the back of the tongue.

Persons with HIV are much less likely to die from AIDS if they are concurrently infected with a harmless virus GBV-C (originally called hepatitis G) (Abstract 156, 10th Conference on Retroviruses & Opportunistic Infections, Boston, Feb 2003). GBV-C decreases the number of available receptors on the surface of CD4 T cells thwarting HIV from replicating within and killing these immune cells.

According to a story in *USA Today* (1/13/03), efforts to balance the state budget in California are threatening to stop the production of antitoxin used to treat *Clostridium botulinum* infections in children (there are ~100 cases in the US annually). This antitoxin (known as Botulinum Immune Globulin or BIG) is derived from the blood of human volunteers, mainly physicians and scientists, who have been vaccinated against botulism, whereas antitoxin for older children and adults is made from the blood of vaccinated horses. Unlike the horse antitoxin, the human version does not cause potentially serious reactions and it works longer. Nationally, BIG is only produced by the California

Department of Health and was scheduled for elimination in Gov. Gary Davis' budget proposal which needs to trim a \$35 billion deficit.

Data from the National Survey of Lead and Allergens in Housing indicates that 84% of US homes had detectable levels of dust mite allergen in a bed (J Allergy Clin Immunol 111:408, 2003). Dust mite levels in nearly half of the homes were at least 2 micrograms per gram of bed dust, the threshold at which people can become allergic. In almost 25% of homes dust mite levels were 5 times as high, reaching the threshold associated with asthma.



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