TENNESSEE DEPARTMENT OF HEALTH

TENNESSEE EPI-NEWS

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Commissioner of Health

COMMUNICABLE AND ENVIRONMENTAL DISEASE SERVICES

January, 2004

INSIDE THIS ISSUE:

The Tennessee Epi-News is published quarterly by the Communicable and Environmental Disease Services section, Tennessee Department of Health, 425 5th Avenue North, Nashville, TN 37247.
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Department of Health. Authorization No. 343227, 9,000 copies. This public document was promulgated at a cost of $0.16 per copy. 01/04

Hepatitis A Outbreak in Knoxville Area

On September 12, 2003, the Knox County Health Department was notified of a diagnosis of hepatitis A in a restaurant employee. Three days later, another employee of the same restaurant was confirmed with hepatitis A. By September 18th, there were 5 employees at the same restaurant with confirmed disease and 36 cases of hepatitis A in surrounding communities. In contrast, the average number of hepatitis A cases in Knox County is 6 annually.

Public notification was begun on September 18th. Those people who had eaten uncooked foods or iced drinks at Restaurant A between September 5 and 14th, 2003, were asked to come to the health department for IG (immune globulin). From September 18th –21st, over 5000 people received IG. By September 29th, 2003, the number of identified cases of hepatitis A had increased to 65 and it was decided to invite the CDC (Centers for Disease Control & Prevention) to help with the investigation of the source of the outbreak.

Initially a food handler was suspected as the source of the hepatitis A outbreak. A list of current and former employees was obtained from the restaurant. Current employees had serum drawn for hepatitis A serology. Former employees were also contacted and either asked to come in for testing or health department staff would go to the person's house to obtain a serum sample. Both ill and well employees had one-on-one interviews and a standardized questionnaire was administered. No employee was identified as a likely source of the outbreak.

All patrons of Restaurant A that had recently been diagnosed with hepatitis A were interviewed in person and administered a questionnaire on their food choices during their visit to the restaurant in August. The questionnaire was an exhaustive list of not only the 80 available dishes, but also included individual items that were served with each dish and accompanying garnishes. Ill

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Severe Acute Respiratory Syndrome (SARS)

Severe Acute Respiratory Syndrome (SARS) emerged as a new respiratory infection in February 2003. SARS was initially reported in Asia, and was imported to North America through travelers from SARS-affected regions. By late July, over 8400 individuals worldwide were reported to have SARS, with over 800 deaths. SARS caused an unprecedented amount of morbidity and mortality among health care workers and disrupted health care delivery systems. During the initial SARS outbreak, transmission occurred predominately in health care facilities, with a large proportion, i.e., over 50% of cases, among health care workers.

The large number of hospital personnel who contracted SARS demonstrates the importance of early detection and infection control in limiting the spread of disease. In every region in which major outbreaks were reported, a substantial proportion of cases resulted from delays in clinical recognition and isolation of patients. SARS-associated coronavirus (SARS-CoV) was also transmitted by infected visitors and by hospitalized patients with other medical conditions that masked the symptoms of SARS. Case recognition and implementation of appropriate precautions greatly reduced the risks of SARS-CoV transmission. However, even with appropriate precautions, there were isolated reports of transmission to health care workers in the settings of aerosol-generating procedures and lapses in infection control technique.

To date, no specific clinical or laboratory findings can distinguish SARS from other respiratory illnesses reliably and rapidly enough to inform management decisions that must be made soon after a patient presents to the health care system. Therefore, early clinical recog-

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Hepatitis A Outbreak in Knoxville Area (continued)

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patrons were asked to identify people they had eaten with on the same visit. Well patrons that were identified by cases were used as controls. Another source of controls was patrons of the restaurant identified through credit cards used to pay for their meals. Those credit card users that had eaten at the restaurant during August 10-24th were contacted and interviewed. Each control was asked about their food history as well as any previous history of jaundice or hepatitis A immunization.

A total of 204 controls and 57 cases were included in the study. Onsets of illness occurred from August 29th to September 18th. The median age was 41 years for cases and 37 years for controls. Cases were 86% white and 63% female. Controls were 90% white and 59% female.

Each menu item and ingredient in a dish was individually analyzed. Several menu items were significantly associated with disease, but the most significant association was found with menu items containing green onions. Of the 57 cases, 56 reported eating green onions. From this analysis, a strong link between eating green onions and illness was evident (OR=65.5; 95% CI 8.9-482.5).

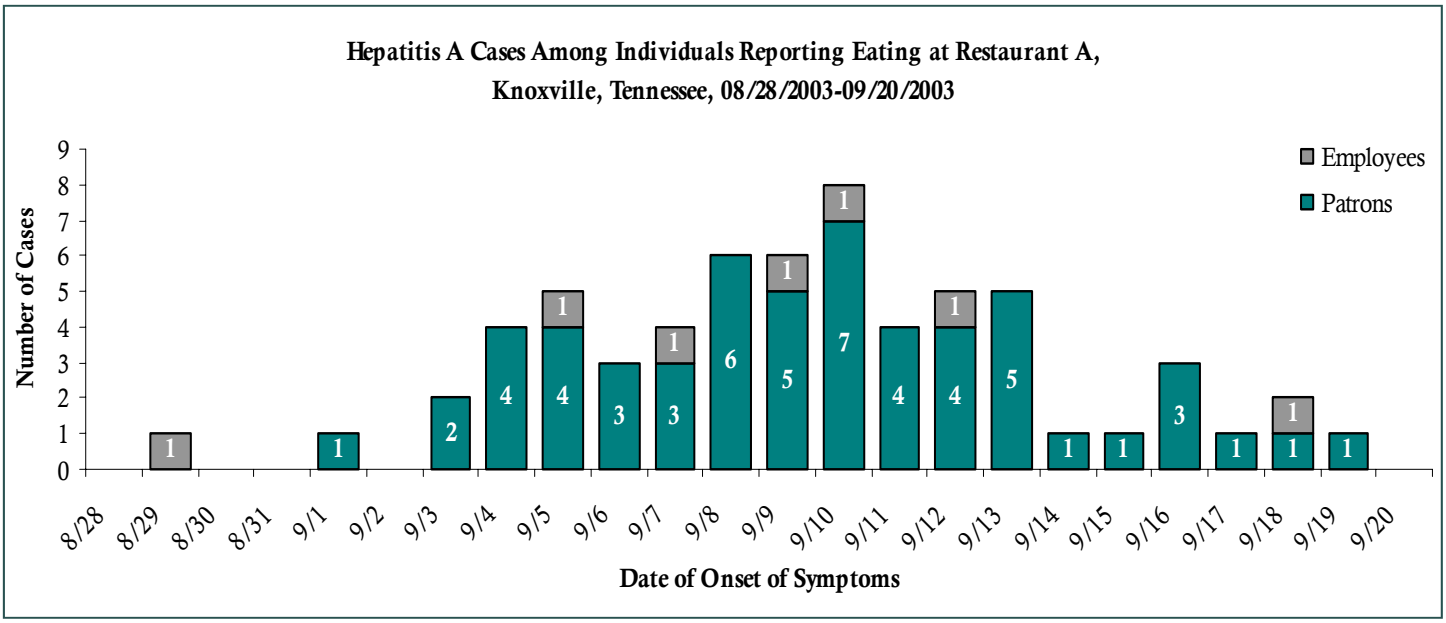
Serum samples from hepatitis A cases were sent to the CDC for viral sequencing. From preliminary viral sequencing, 26 of 27 samples associated with Restaurant A were identified as having identical DNA sequences. These viral sequences were distinct though similar to the strain circulating in an outbreak in Georgia and North Carolina occurring at the same time.

The results from the epidemiologic analysis indicate that contaminated green onions were the likely cause of the hepatitis A outbreak. Opportunities for contamination can occur while harvesting the onions and from the water supply used for ice and irrigation. No food handlers were identified as having infectious hepatitis A during the period of exposure in this outbreak. The concurrent outbreaks of hepatitis A in Georgia and North Carolina also implicated green onions and suggest that contamination of the green onions occurred prior to shipment to Restaurant A. The FDA is currently working with investigators to trace the source of the green onions and attempt to identify the likely source of their contamination.

Sporadic cases of hepatitis A do occur, but outbreaks associated with restaurants are not common. In children, hepatitis A can be a very mild illness that is difficult to distinguish from other common viral illnesses. In adults, however, there are more obvious symptoms of abdominal pain, malaise and jaundice. A highly efficacious inactivated vaccine for hepatitis A has been available since the mid 1990s. The two commercially available hepatitis A vaccines are Havrix (manufactured by GlaxoSmithKline Biologicals, Rixensart, Belgium) and Vaqta (Merck & Co Inc, West Point, PA.). Both are equally efficacious and have nearly 100% seroconversion one month after receiving the second dose. Current guidelines recommend immunizing those individuals traveling to high-risk countries, those with chronic liver disease or clotting factor disorders, homosexual and bisexual men and children who live in areas of the United States where the annual incidence of hepatitis A is greater than twice the average rate in the U.S.

Previous studies have shown that in populations with increased risk for hepatitis A, immunization of children decreases the overall incidence of hepatitis A in not only children but also in adults. The decrease in adults is likely due to the fact that children are often effective transmitters of hepatitis A and this transmission is decreased with immunization. One problem with deciding to make the hepatitis A vaccine a routine vaccination is that it is only licensed for persons greater than 2 years of age. The 2-year check-up is not a usual time to administer immunizations, and the patient has to return within 6-12 months for the second dose. In an already crowded immunization schedule, adding another vaccination and another office visit may greatly reduce the chances of effective hepatitis A immunization. On the other hand, successful control of hepatitis A in the United States is unlikely if any approach short of routine childhood immunization is chosen. A combination vaccine of hepatitis A and B is available, but is licensed for those 18 years of age and older. Recommendations for the hepatitis A vaccine will continue to be a topic of controversy.

This outbreak demonstrated the efficiency and effectiveness of the regional and local health department response in an outbreak situation. Prompt post exposure immunoglobulin prophylaxis to employees and patrons halted ongoing transmission. The teamwork displayed among local, regional and state health departments and the CDC was evident by the success of this investigation and demonstrated the value of multi-agency cooperation.



SEVERE ACUTE RESPIRATORY SYNDROME (SARS) (CONTINUED)

(Continued from page 1)

nition of SARS still relies on a combination of clinical and epidemiologic features. Although exposure history is a main factor in the diagnosis, many SARS patients do share some suggestive clinical characteristics. These include: presence of fever and other systemic symptoms 2 to 7 days before onset of a dry cough and dyspnea, presence of radiographic evidence of pneumonia in most patients by day 7 to 10 of illness, infrequent presence of upper respiratory tract symptoms, and lymphopenia. The implementation of screening criteria will help identify patients at risk for SARS. Patients hospitalized with chest x-ray-confirmed pneumonia should be asked the following three questions (Figure 1).

Figure 1.

SCREENING CRITERIA

1.Have you or any close contacts traveled to China, Taiwan or Hong Kong in the last two weeks?

2.Do you work in hospitals or other health care facilities?

3.Do you have close contacts that have been told they have pneumonia?

**Screen all persons hospitalized for CXR-confirmed pneumonia*

WHEN SARS TRANSMISSION HAS NOT BEEN DOCUMENTED ANYWHERE IN THE WORLD…..

SARS should only be considered in patients who:

1. Are hospitalized for pneumonia of unknown etiology
   AND
2. Have evidence of one of the following:
   - Recent travel to a previously SARS-affected area (China, Hong Kong, or Taiwan) or close contact with ill persons with a history of travel to such areas
   - Employment as a health care worker
   - Recent exposure to other persons with unexplained pneumonia

If SARS is suspected, it is important to realize that there are several limitations to diagnostic testing early in the course of illness. A negative PCR does not exclude SARS as a diagnosis. Do not base clinical management or infection control measures on a negative PCR result. A positive PCR result obtained from a commercial laboratory must be confirmed through the State Public Health Laboratory. Regardless of where testing occurs, providers **must** contact the Tennessee Department of Health **prior to** testing for SARS, to ensure proper public health control measures are followed. For further information, please contact the Tennessee Department of Health at 615-741-7247 (24/7).

SARS provides a reminder of the risks of nosocomial transmission of respiratory pathogens and an opportunity to improve overall infection control in health care facilities. During the 2003 epidemic, public health authorities quickly recognized the importance of infection control as the primary means for containing SARS. All health care facilities need to reemphasize the importance of basic infection control measures for the control of SARS. The Centers for Disease Control and Prevention has recently released the draft guidelines: Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS), found at www.cdc.gov/ncidod/sars.htm. These guidelines will assist local and state public health and health care officials in their preparations for a possible reemergence of SARS during the approaching respiratory disease season.

Many viral and some bacterial respiratory pathogens (e.g., influenza, adenovirus, respiratory syncitial virus, *Mycoplasma pneumoniae*) share transmission characteristics with SARS-CoV and are also frequently transmitted in health care settings. Implementation of "respiratory etiquette" practices can decrease the risk of transmission from unrecognized SARS patients and also control the spread of other, more common, respiratory pathogens.

Each facility should consider initiating "a universal respiratory etiquette strategy" or "good health manners campaign" for the facility. Provide surgical masks or tissues to all patients presenting with respiratory symptoms, place patients with respiratory symptoms in a private room or cubicle as soon as possible. If required, additional components of a universal respiratory etiquette strategy are delineated in the box below (Figure 2).

Figure 2. Universal Respiratory Etiquette Strategy for Health Care Facilities: "Good Health Manners"

Provide surgical masks to all patients with symptoms of fever with rash or cough. Provide instructions on the proper use and disposal of masks. (See informational bookmark on back cover)

For patients who cannot wear a surgical mask, provide tissues and instructions on when to use them (i.e., when coughing, sneezing, or controlling nasal secretions), how and where to dispose of them, and the importance of hand hygiene after handling this material.

For patients with any respiratory symptoms:

- Provide hand hygiene materials in waiting room areas, and encourage its use.
- Designate an area in waiting rooms segregated (ideally by at least three feet) from other patients who do not have respiratory symptoms.
- Place patients in a private room or cubicle as soon as possible for further evaluation.
- Consider the installation of plexiglass barriers at the point of triage or registration.
- If no barriers are present, instruct registration and triage staff to remain at least three feet from unmasked patients and to consider wearing surgical masks during respiratory infection season.
- Continue to use droplet precautions until it is determined that the cause of symptoms is not an infectious agent that requires precautions beyond standard precautions.

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RETURN SERVICE REQUESTED

Keep illness from spreading!

If you have a fever with cough or rash, Let us know - we'll get you a **mask**.

Tiny droplets of moisture that exit the nose or mouth when a person coughs, sneezes, or talks spread some diseases. Without meaning to, we can infect others when these droplets come into contact with another person's nose, mouth and eyes. Some diseases that are spread by droplets in the air include:

- Colds
- Flu
- Whooping Cough
- Bacterial Meningitis
- Mumps
- SARS
- Measles
- Rubella
- Smallpox

Symptoms of these diseases often include fever with a cough or rash. We are asking people who think they may have these symptoms to wear a mask while in this facility.

TDH
TENNESSEE DEPARTMENT OF HEALTH

Adapted with permission from the Vermont Department of Health.

FRONT

Cover your mouth when you cough or sneeze -

If you use your hands, then wash them please.

Good Health Manners will help keep illness from spreading!

- Cover your mouth and nose with tissues every time you sneeze or cough.
- Put used tissues into the trash.
- Wash your hands well and often with soap and water, or use an alcohol hand sanitizer.

This is a message for staff, patients and visitors from the Tennessee Department of Health and this hospital or health care center.

For more information on Good Health Manners and infection control:

tennessee.gov/health

BACK

INFORMATIONAL BOOKMARK FOR PATIENT DISTRIBUTION