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Miami-Dade County HEALTH DEPARTMENT

Outbreak of Viral Conjunctivitis at a Training Facility Miami-Dade County, September and October 2001

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Background

On September 25, 2001, the Office of Epidemiology and Disease Control (OEDC) of the Miami-Dade County Health Department (MDCHD) was notified by a job training center staff person that more than 40 young adults at the facility had been diagnosed with conjunctivitis for the month of September. Usually, the facility has between one and eight cases of conjunctivitis per month. The facility consists of classrooms, a cafeteria, three dormitory buildings, a swimming pool, and has an enrollment of 504 young adults.

Methods

Epidemiology and Environmental Investigation

On September 25, 2001, staff persons from OEDC conducted an on-site investigation. On September 26, 2001, an Environmental Health Division staff person of MDCHD conducted an inspection of the facility. A case-control study was conducted from October 4th to 23rd with telephone and in-person interviews of cases and a convenience sample of controls using a questionnaire. For purposes of analysis, a case of conjunctivitis was defined as an illness diagnosed by the facility's physician as conjunctivitis.

Laboratory methods

Bascom Palmer Eye Institute tested conjunctival eye swabs from clinically diagnosed patients for viruses. Mercy Hospital Laboratory and Department of Health Bureau of Laboratories tested conjunctival eye swabs for bac teria.

Control Measures

On September 27, 2001, two OEDC staff and five staff persons from the Community Health Action Team (CHAT) of MDCHD provided a comprehensive presentation and educational seminar to approximately 400 staff and students of the facility. The presentation consisted of information about the outbreak and general recommendations to prevent future transmission including: hand washing, proper hygiene, and not sharing personal items. Following the presentation, copies of the presentation, hand washing posters, and a recommendation letter were distributed to the staff for review and/or posting.

Inside this issue:

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The recommendations provided to the staff of the facility to minimize the incidence of new infections included:

- Stop the enrollment of new students until control measures are in place and the outbreak is over.
- Require each student who is sent home because of conjunctivitis to be examined by a physician before returning to the facility.
- Give students sent home because of conjunctivitis educational material about preventing transmission to family members.
- Do not allow students with symptoms of conjunctivitis to participate in group activities until a physician determines that they are not infectious.
- Monitor ill students for fever, rash, and other symptoms of more serious illness.
- Ensure that all students and staff wash their hands with soap after using the bathroom or wiping their nose or eyes.
- Dry hands with a personal towel or single use paper towel.
- Ensure that liquid soap and disposable single-use paper towels are maintained in all common restrooms and hand washing facilities.
- Ensure that students do not share any personal articles, such as towels, soap, make-up, or bedding materials.
- Caution students and staff not to rub or touch their eyes.
- Disinfect any articles that may have been contaminated by patients with signs and symptoms of conjunctivitis, including the clinic area and living quarters. Pay particular attention to door handles and counter tops.
- Continue the practice of excluding ill staff members from work. Any staff illnesses should be reported to the clinic.
- Discourage ill staff from working at other facilities such as other schools, nursing homes or hospitals, due to the communicable nature of this illness.
- Do not allow ill visitors into the facility.
- Inform all visitors of the precautionary measures that have been put in place regarding the conjunctivitis outbreak.
- Report procedural updates and new cases to OEDC daily.

Result

Epidemiology and Environmental Results

Of the 504 students, 77 (15%) met the case definition for conjunctivitis. The index case was September 6th, and the outbreak peaked on October 1st with 10 cases (figure 1). The onsite investigation indicated that soap and hand towels were not available in all restrooms. Staff reported that students have much close contact with one another including frequent hugs, clothes, and make-up. OEDC staff also observed the students jumping and hugging each other, sharing cigarettes, and failing to wash their hands prior to eating dinner.

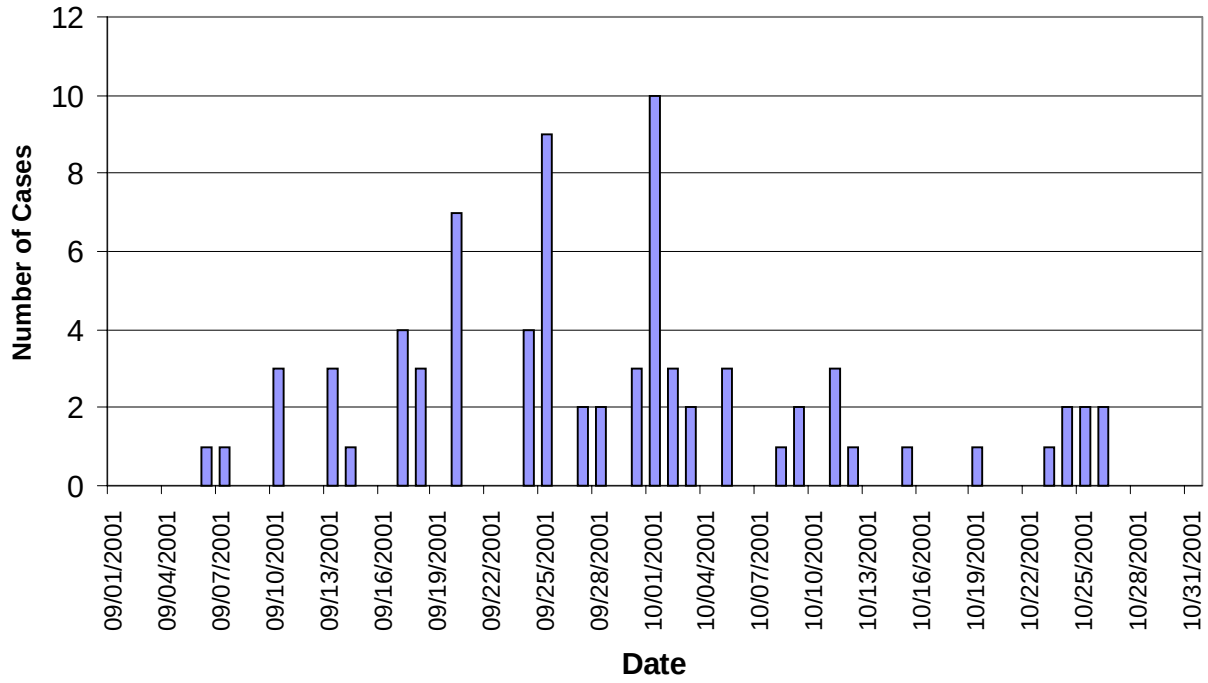
Case-Control Study

Forty-three cases and 84 controls were assessed using a questionnaire designed to assess risk behaviors. Logistic regression modeling was performed to examine the risk factors and to control confounders. After controlling for factors associated with illness in the univariate analysis, the only factor that was significantly associated among females was cigarette sharing (odds ratio 5.75, 95% CI 1.69-19.57). Among men, two significant factors appeared which included rubbing their face daily more than 16 times (odds ratio 6.28, 95% CI 1.10-35.89) and having had a roommate catch pinkeye (odds ratio 8.95, 95% CI 2.25-35.62).

Laboratory Confirmation

Adenovirus was identified from six of the 10 samples. In addition, one sample tested positive for *Streptococcus pneumoniae*, and one for *Neisseria gonorrhoeae.*

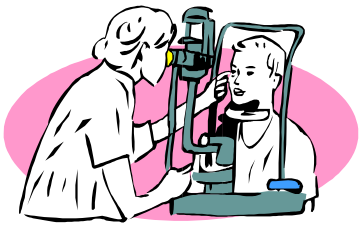
Figure 1. Reported Viral Conjunctivitis Cases at a Training Facility Miami-Dade County, September and October, 2001



Discussion

An outbreak of conjunctivitis began on September 6, 2001, and ended on October 26, 2001, at a facility for young adults. However, sporadic cases continued to be reported to the OEDC for the remainder of the calendar year. The causative agent for this outbreak was adenovirus. Adenoviral conjunctivitis is extremely contagious and occurs following exposure to an infected individual, commonly at home or at school. The incubation period is usually five to 12 days, and the virus is shed from late in the incubation period to 14 days after onset of infection. Treatment of adenoviral conjunctivitis is supportive.[1] Control of this outbreak was challenging due to the dormitory living arrangements and close contact that many students had with each other. However, implementation of the control measures did decrease the numbers of new cases. It is important for this facility and others like it to have regular hygiene training of residents that discourage personal article sharing, especially cigarettes, and ensure that soap and disposable paper towels are always available in all common restrooms.

Reference:
1. Chin J, Ascher M. Control of Communicable Diseases Manual. 17th edition. Washington DC: United Book Press; 2000: 122-123.



Medical Alert For West Nile Virus And Eastern Equine Encephalitis to Be Lifted At Year's End

Lisa Conti, D.V.M., M.P.H.,
Bureau of Epidemiology

[The following article appeared in EPI UPDATE, a weekly publication by the Bureau of Epidemiology, Florida Department of Health (For December 21, 2001)]

December 19, 2001
TALLAHASSEE – Florida Department of Health officials will lift the West Nile (WN) virus and Eastern Equine Encephalitis (EEE) medical alert that covers 53 counties at the end of the year. These advisories are issued to encourage people to take basic precautions to help limit their exposure to mosquitoes, prevent mosquito-borne encephalitis, and encourage increased surveillance for the disease.

"We have seen a significant drop in mosquito activity and in positive tests for the diseases among our sentinel chickens and reported dead birds," said Department of Health Secretary Dr. John O. Agwunobi, "We have also seen a reduction in the number of horses contracting these diseases."

Agwunobi stressed that while the chance of contracting WN or EEE is small, people in areas with high concentrations of mosquitoes still need to take precautions, such as wearing mosquito repellant. Additionally, as this is the first year that WN virus has been found in the state, he encourages anyone who discovers a dead bird to report it via the Internet. The bird mortality reporting system is located on the Florida Fish and Wildlife Conservation Commission's web site at: http://wld.fwc.state.fl.us/bird. If people do not have access to the Internet, they may report dead birds at 1-800-871-9703.

A total of 11 human WN and three EEE cases were reported to the State Health Office during 2001. County health departments and mosquito control districts throughout Florida helped reduce the risk by educating residents on how to protect themselves, monitoring mosquito activity and implementing mosquito control activities.

For more information on West Nile virus, visit the Bureau of Epidemiology's West Nile website at MyFlorida.com (click on Health and Human Services, then Consumers – Diseases and Conditions, then West Nile Virus) or http://www.doh.state.fl.us/disease_ctrl/epi/htopics/arbo/index.htm or call the Bureau's hotline at 1-888-880-5782 for recorded information.

Influenza Virus Surveillance Summary Update

Carina Blackmore, M.S. Vet. Med., Ph.D.

[The following article appeared in EPI UPDATE, a weekly publication by the Bureau of Epidemiology, Florida Department of Health (For December 27, 2001)]

Week ending December 15, 2001-Week 50
National report: During week 49 (December 9-15, 2001), 25 of 907 specimens tested by the World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories across the United States were positive for influenza. Since September 30, a total of 13,645 specimens for influenza viruses have been tested and 231 (1.7%) were positive. Of the 231 isolates identified, 222 (96%) were influenza A viruses and 9 (4%) were influenza B viruses. One hundred and fifty-two (68%) of the influenza A viruses were subtyped, 150 were influenza A (H3N2) and 2 were influenza A (H1N1) viruses. Influenza A (H3N2) isolates were identified in Alaska Arizona, California, North Dakota, Pennsylvania, South Carolina, Texas, Utah, Wisconsin, and West Virginia; influenza A (H1N1) isolates were identified in Washington and Wisconsin; and unsubtyped influenza A isolates were identified in Alaska, California, Colorado, Hawaii, Kansas, Louisiana, Minnesota, New Jersey, New York, Oregon, Texas, Virginia, Washington, Wisconsin, and West Virginia. Influenza B isolates were identified in

Hawaii, Lousiana, Michigan, Texas and Virginia. One hundred and thirty-eight (60%) of the 231 influenza viruses isolated were from the Pacific region. (Alaska, California, Hawaii, Oregon, and Washington) and 106 (46%) of the 231 viruses isolated were identified in Alaska**.** The proportion of patient visits to sentinel physicians for influenza-like illness (ILI) overall was 1.2%, which is less than the national baseline of 1.9%. The proportion of deaths attributed to pneumonia and influenza as reported by the vital statistics offices of 122 U.S. cities was 7.1% during week 50. This percentage is below the epidemic threshold of 7.7% for this time. Influenza activity was reported as widespread in Alaska and regional in Colorado and Vermont this week. Sporadic activity was reported from 36 states, New York City and Washington, DC. No influenza activity was reported from Idaho, Oklahoma, Arkansas, Mississippi, Illinois, Pennsylvania, New Jersey, Massachusetts, New Hampshire, Rhode Island and Delaware.

Florida: Influenza activity appears to be increasing in Florida with 1.42% of patients seeking care by physicians in the influenza sentinel surveillance who met the case definition for ILI (> 100 F + cough and or sore throat) during week 50. This is similar to last week's numbers while in previous weeks fewer than 1% of patients seen have had a flu-like illness. Influenza-like illness activity was detected in 11 counties from Escambia to Monroe. Higher flu activity than expected for this time of year (>2%) was reported by physicians in Escambia, Lake, Monroe, Palm Beach, and Polk counties. Influenza A (H3N3) was isolated from a patient in Polk County this week. A positive rapid antigen test was also reported from Hillsborough County. Between September 4 and December 20, influenza A (H2N3) was isolated from 10 patients residing in Broward, Collier, Duval, Hillsborough, Lee, Palm Beach Polk and St John's Counties and influenza A of unknown subtype, was isolated from 4 patients in Pinellas and 1 patient from Hillsborough County. Influenza B was isolated in Hillsborough County. In addition, positive rapid antigen tests were reported from, Duval County (1), Hillsborough (1), Palm Beach (1), Marion (2), Miami-Dade (6) Okaloosa (2) and Volusia (6) Counties.

Dear Colleagues:

Happy New Year! Thank you for your assistance in the surveillance and control of communicable and other diseases in our community. We especially appreciate your great efforts in the anthrax surveillance system in October.

Enjoy the spirit of the season, Have a wonderful new year!

From all staff of
Miami-Dade County Health Department
Office of Epidemiology and Disease Control

To report diseases or for information:

Office of Epidemiology and Disease Control

Childhood lead poisoning prevention program	(305) 324-2414
Hepatitis	(305) 324-2490
Other diseases and outbreaks	(305) 324-2413
HIV/AIDS Program	(305) 377-7400
STD Program	(305) 325-3242
Tuberculosis Program	(305) 324-2470
Special Immunization Program	(305) 376-1976
Nights, weekends, and holidays	(305) 377-6751

Monthly Report
Selected Reportable Diseases/Conditions in Miami-Dade County, November 2001

Diseases/Conditions	Reported Cases this Month	2001 Year to Date	2000 Year to Date	1999 Year to Date	1998 Year to Date
AIDS *Provisional	86	1170	1276	1267	1471
Campylobacteriosis	6	111	141	132	99
Chancroid	0	0	0	0	2
Chlamydia trachomatis	278	3031	3236	3819	3336
Ciguatera Poisoning	6	6	2	0	0
Cryptosporidiosis	0	13	29	21	13
Cyclosporosis	0	0	0	1	1
Diphtheria	0	0	0	0	0
E. coli , O157:H7	0	2	3	5	9
E. coli , Other	0	1	1	0	2
Encephalitis	0	0	0	0	2
Giardiasis, Acute	20	247	223	82	91
Gonorrhea	142	1585	2525	2568	2461
Granuloma Inguinale	0	0	0	0	0
Haemophilus influenzae B (invasive)	0	1	2	1	1
Hepatitis A	15	172	86	92	116
Hepatitis B	10	65	53	25	67
HIV *Provisional	189	1513	1434	1466	1665
Lead Poisoning	19***	258***	380	Not available	Not available
Legionnaire's Disease	0	3	0	0	1
Leptospirosis	0	0	0	1	0
Lyme disease	0	6	7	2	1
Lymphogranuloma Venereum	0	0	0	0	2
Malaria	4	18	21	16	27
Measles	0	0	0	0	0
Meningitis (except aseptic)	1	18	21	30	16
Meningococcal Disease	1	15	24	25	12
Mumps	0	0	2	2	0
Pertussis	0	2	7	11	14
Polio	0	0	0	0	0
Rabies, Animal	0	0	0	0	1
Rubella	0	0	1	0	0
Salmonellosis	38	301	267	308	241
Shigellosis	24	151	214	186	228
Streptococcus pneumoniae, Drug Resistant	13	162	182	161	77
Syphilis, Infectious	10	170	123	71	27
Syphilis, Other	69	922	683	707	654
Tetanus	0	1	1	0	0
Toxoplasmosis	7	18	0	1	0
Tuberculosis *Provisional	23	209	230	239	265
Typhoid Fever	0	2	2	15	3
Vibrio , *cholera*	0	0	0	0	0
Vibrio , Other	0	0	0	0	1

* Data on AIDS are provisional at the county level and are subject to edit checks by state and federal agencies.
** Data on tuberculosis are provisional at the county level. ***: All follow-up cases were removed