MINNESOTA DEPARTMENT OF HEALTH

DISEASE CONTROL NEWSLETTER

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National Hepatitis Awareness Month - Prevention Strategies for Clinicians

May is designated as National Hepatitis Awareness Month. Despite the availability of hepatitis A and B vaccines, viral hepatitis continues to be an important public health problem in both Minnesota and the United States. Health care providers can play a key role in decreasing the incidence of viral hepatitis through a variety of prevention strategies. A summary of specific efforts to prevent transmission of hepatitis A, B, and C is provided below.

Hepatitis A

Hepatitis A infection is acquired primarily by the fecal-oral route through either person-to-person contact or ingestion of contaminated food or water. Most U.S. cases of hepatitis A result from person-to-person transmission during community-wide outbreaks. The epidemiology of infection due to hepatitis A virus (HAV) is closely related to socio-economic factors. As living standards in a region improve, disease incidence and prevalence decline. The average age at infection also increases with socio-economic status, and the severity of clinical disease is directly related to age at infection. Natural immunity to HAV in the U.S. population is decreasing, particularly among children, adolescents, and young adults. The resulting rise in the overall number of susceptible individuals creates an environment in which outbreaks of HAV are more likely to occur.

The reported incidence of hepatitis A in the United States is highest among children 5 to 14 years of age; approximately one-third of cases occur among children less than 15 years of age. Many additional children have unrecognized asymptomatic infection and can be the source of infection for others. The incidence of hepatitis A nationally varies by race/ethnicity, with highest rates among American Indian/Alaskan Natives and lowest rates among Asians; rates among Hispanics are higher than among non-Hispanics. These differences likely reflect factors related to socio-economic status and resulting living conditions (e.g., crowding) and more frequent contact with persons from geographic areas where hepatitis A is endemic (e.g., Mexico and Central America).[1]

The incidence of hepatitis A infection increases cyclically approximately every 10 years. The most recent peak in case numbers in Minnesota occurred in 1992 (nearly 900 cases). The rates of reported cases of hepatitis A for specific Minnesota counties for 1987-1997 are shown in Figure 1; however, even within specific counties with low or moderate overall rates, certain communities or sub-populations may be at increased risk.

Hepatitis A vaccine has been available since 1995. Although vaccination continues to be recommended for individuals at increased risk for hepatitis A or severe outcomes, recent national guidelines from the Advisory Committee on Immunization Practices (ACIP) also recommend routine vaccination of children living in communities with the highest rates of infection and disease.[1] Because most children have asymptomatic or unrecognized infections, they play an important role in hepatitis A transmission and serve as a source of infection for others. ACIP specifically recommends the routine vaccination of children in states, counties, and communities with rates that are twice the 1987-1997 national average or greater (i.e., >20 cases per 100,000 population) and consideration of routine vaccination of children in states, counties, and communities with rates exceeding the 1987-1997 national average (i.e., >10 cases per 100,000 population).

MDH will be working with local health departments and other health care providers to develop specific policies for hepatitis A prevention based on

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local epidemiology.

In addition, the ACIP and MDH continue to recommend hepatitis A vaccine for persons at increased risk for HAV infection or severe outcomes, including:

- travelers to countries with high rates of hepatitis A, including tourists, military personnel, missionaries, and others who work or study abroad;
- men who have sex with men;
- users of injecting and non-injecting illegal drugs;
- persons with clotting-factor disorders;
- patients with chronic liver disease; and
- persons who work with HAV-infected primates or with HAV in a research setting.

Hepatitis A vaccine also is recommended for those working in occupations frequently associated with outbreaks (such as foodhandlers), as well as any person in the general public older than 2 years of age who desires immunity to HAV.

Providers also are encouraged to:

- recommend post-exposure prophylaxis with immunoglobulin (IG) for household and sexual contacts of persons with acute hepatitis A; and
- follow public health guidelines for appropriate use of IG and vaccine in hepatitis A outbreak settings.

Hepatitis B

Hepatitis B virus (HBV) is transmitted primarily through blood or sexual contact. Prevention strategies include the following:[2,3]

1. Vaccinate all infants, children, and adolescents against HBV. Special efforts should be made to ensure that high levels of HBV vaccination are achieved in populations in which HBV infection occurs at high rates among children (e.g., Pacific Islanders, Alaskan Natives, and infants and children of immigrants from HBV-endemic countries).

   Minnesota's school immunization law requires hepatitis B shots for kindergarteners starting in the fall of 2000, and for seventh graders in the fall of 2001.
2. Vaccinate patients with chronic hepatitis C.
3. Vaccinate adults at increased risk for HBV infection, including:
   - sexually active heterosexual persons with multiple partners or a recent episode of a sexually transmitted disease;
   - sexually active men who have sex with men;
   - household contacts and

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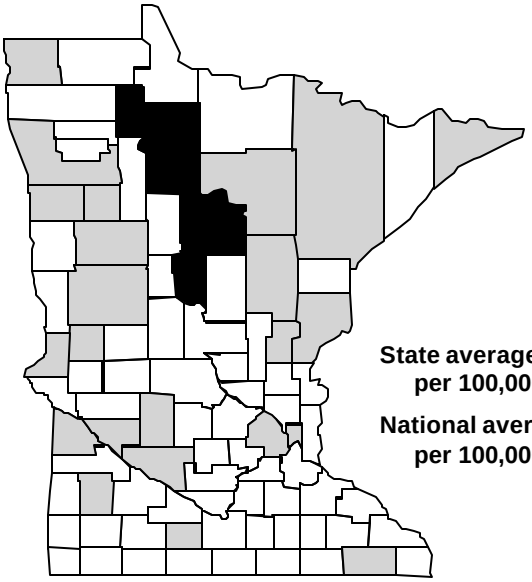
Figure 1. Average Number of Reported Cases of Hepatitis A per 100,000 Population, 1987-1997



≥20 cases per 100,000 population: Beltrami and Cass Counties.

10 to <20 cases per 100,000 population: Cook, Becker, Fillmore, Hennepin, Kanabec, Kittson, Mahnomen, and Pine Counties.

7 to <10 cases per 100,000 population: Aitkin, Grant, Kandiyohi, Ramsey, and Watonwan Counties.

5 to <7 cases per 100,000 population: Chippewa, Itasca, Lac Qui Parle, Lyon, Norman, Otter Tail, Polk, Renville, St. Louis, and Traverse Counties.

Education Credits Available for Web-Based Hepatitis C Training - "Hepatitis C: What Clinicians and Other Professionals Need to Know"
http://www.cdc.gov/hepatitis (effective May 15, 2000)

"Hepatitis C: What Clinicians and Other Professionals Need to Know" is an interactive web-based training program developed by the Hepatitis Branch of the Centers for Disease Control and Prevention (CDC). This program provides up-to-date information on the epidemiology, diagnosis, and management of hepatitis C virus (HCV) infection and HCV-related chronic disease.

Users can test their knowledge of the material through study questions and case studies. By combining current clinical and epidemiological information with state-of-the-art technology and graphics designed to enhance both the user's understanding of the material and the appearance of the program, this web-based training program provides a valuable educational tool to assist health professionals in preventing and managing HCV infection and HCV-related chronic disease.

Continuing medical and nursing education credits are available free of charge from CDC upon completion of the training. The American Academy of Family Physicians also will grant educational credits.

sexual partners of persons identified as hepatitis B surface antigen (HBsAg)-positive;

- injecting drug users;
- health care workers and others with occupational risk of exposure to blood or blood-contaminated body fluids;
- persons who plan to travel or live in parts of the world where HBV infections are common;
- first-generation immigrants/ refugees from countries where HBV infection is of high/ intermediate endemnicity;
- patients on hemodialysis;
- patients with bleeding disorders who receive clotting factor concentrates;
- members of households with adoptees who are HBsAg-positive;
- residents and staff of institutions for developmentally disabled persons; and
- susceptible inmates of long-term correctional facilities.

4. Perform HBsAg screening of all pregnant women at each pregnancy to identify chronic HBV carriers; provide hepatitis B immunoglobulin and first dose of hepatitis B vaccine as soon as possible to infants born to carrier mothers and continue to vaccinate such children appropriately.

Hepatitis C

Hepatitis C virus (HCV) is transmitted predominately by parenteral exposure to blood and blood products from HCV-infected persons. Currently, there is no effective vaccine against hepatitis C. However, 15-25% of patients with chronic HCV infection who receive interferon therapy have a sustained response. New therapeutic regimens (e.g., combination therapy with interferon and ribaviron) continue to be developed. Prevention strategies include the following:[4]

- Health care providers should assess patients' risk status and screen those at high risk for hepatitis C, including:
  - persons who received blood or blood products or a solid organ transplant prior to 1992;
  - persons who received clotting factor concentrates produced before 1987;
  - persons have ever been on chronic hemodialysis;
  - persons with a history of injecting drug use;
  - patients with evidence of liver disease;
  - children born to HCV-positive women; and
  - health care workers and others after needle sticks, sharps, or mucosal exposures to HCV.
- Most persons with antibody to HCV are chronically infected. Chronically infected patients should be counseled about abstaining from alcohol, receive hepatitis A and B vaccines, and be educated about reducing the potential for transmission of HCV to others. HCV antibody-positive individuals should refrain from donating blood, organs, tissues, or semen. Persons with multiple sexual partners should use safe sexual practices. In households with a HCV-positive member, sharing razors and toothbrushes should be avoided, open wounds should be covered, and injection needles should be disposed of carefully using universal precaution techniques.
- HCV antibody-positive persons should be referred for further evaluation to determine whether they are candidates for combination interferon and ribaviron therapy (or other treatment regimens as they become available).

For further information about hepatitis A, B, or C epidemiology, disease, or general prevention measures, contact the MDH Acute Disease Epidemiology Section at 612-676-5414. For hepatitis A or B immunization questions, contact the MDH Acute Disease Prevention Services Section or the MDH Immunization Hotline at 1-800-657-3970 or 612-676-5100 (metro). The MDH web site can be found at http://www.health.state.mn.us .

References

1. CDC. Prevention of hepatitis A through active or passive immunization: Recommendations of the ACIP. MMWR 1999;48(RR-12).
2. CDC. Hepatitis B Virus: A comprehensive strategy for eliminating transmission in the United States through universal childhood vaccination: Recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1991;40(RR-13):1-19.
3. CDC. Notice to readers update: Recommendations to prevent hepatitis B virus transmission--United States. MMWR 1995;44(30):574-575.
4. CDC. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. MMWR 1998;47(RR-19):1-33.

Lyme Disease Vaccine: Update for Health Care Providers

On December 21, 1998, the Food and Drug Administration (FDA) licensed LYMErix™ manufactured by SmithKline Beecham, the first vaccine to aid in the prevention of Lyme disease. On June 4, 1999, the Advisory Committee on Immunization Practices (ACIP) released recommendations for use of the vaccine.[1] The Minnesota Department of Health (MDH) supports these recommendations. The purpose of this article is to provide information on assessing risk for Lyme disease and on use of the Lyme disease vaccine.

Lyme Disease Risk Assessment

Lyme disease is an important public health problem for residents of and visitors to much of Minnesota. From 1982 to1998, 2,290 cases of Lyme disease were reported in Minnesota. In

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1999, 283 cases of Lyme disease (6.0 cases per 100,000 population) were reported. Most Minnesota residents with this disease have had likely exposure to infected *Ixodes scapularis* (deer tick or black-legged tick) in certain east-central Minnesota counties or western Wisconsin (Figure 2). In the seven-county Twin Cities metropolitan area, *I. scapularis* and human Lyme disease cases are found primarily in certain rural or semi-rural areas north and east of the Mississippi River (i.e., Anoka and Washington Counties and the northern edge of Ramsey County).

Within areas where Lyme disease is endemic, the risk of infection is not uniform across the landscape. *Ixodes scapularis* are found in wooded and brushy habitats where humidity at ground level is sufficient to prevent their dessication. The ticks generally are not found in open grassy fields or lawns, but can be found at the border between open habitat and thick brush or woods. People who engage in activities in wooded or brushy areas are most at risk.

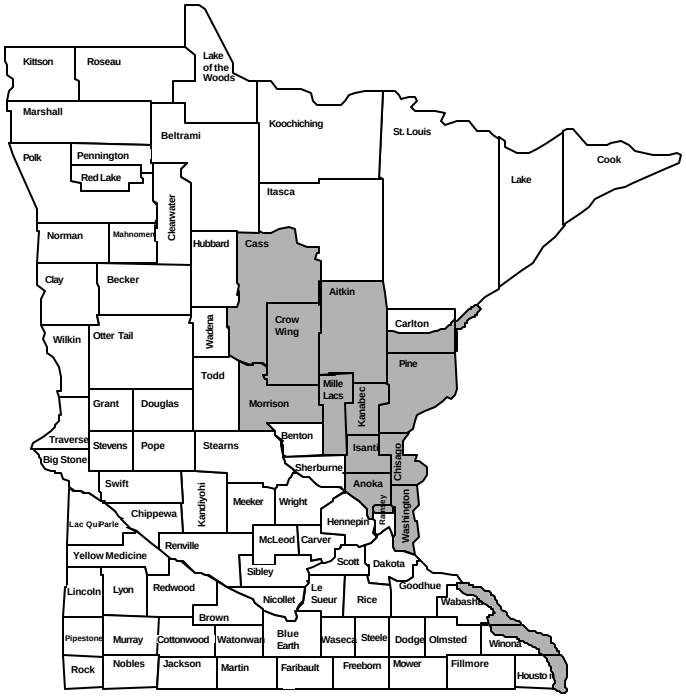
Lyme disease risk also varies significantly during the year. Seventy-nine percent of the Lyme disease cases reported to MDH during 1995 to 1999 had onset between June and August, which corresponds to the May through July feeding period of *I. scapularis* nymphs. These immature ticks are so small that many people cannot detect and remove them prior to the 24 to 48 hours of attachment necessary for disease transmission. Adult *I. scapularis* are active primarily during the spring (i.e., March through early June) and fall (i.e., September and October). Adult *I. scapularis* are large enough that many people can see them and remove them prior to disease transmission. Rates of *Borrelia burgdorferi* (the Lyme disease agent) infection in Minnesota *I. scapularis* populations have not been studied well but are thought to be less than in endemic areas on the East Coast, where up to one-half of ticks may be infected in some areas.

To assess the risk of Lyme disease, it is important to determine:

- whether a person lives, works or plays in any of the high-risk areas shown in Figure 2; and
- whether a person has frequent or prolonged exposure to wooded or brushy tick habitat during the deer tick season.

Recreational activities such as hiking, camping, or visiting a cabin are frequently identified high-risk activities, as are some occupational activities such as clearing brush, forestry, wildlife and parks management, or landscaping.

Figure 2. Minnesota Counties Where Lyme Disease is Endemic, 1993-1999



Minnesota residents who contracted Lyme disease from 1993 to 1999 indicated their likely exposure to deer ticks occurred as follows:

- The majority (64%) of cases were exposed in the areas of Minnesota highlighted on the map: all of Aitkin, Anoka, Cass, Chisago, Crow Wing, Isanti, Kanabec, Mille Lacs, Morrison, Pine, and Washington Counties; portions of Carlton and southern St. Louis Counties; the eastern-most sections of Houston, Wabasha, and Winona Counties; and northern Ramsey County.
- Twenty-six percent of Minnesota cases were exposed in counties in the western half of Wisconsin. Among Wisconsin residents, the majority of recently reported cases occurred in northwestern Wisconsin, although cases have been reported throughout the western half of the state. Additional information on Lyme disease in Wisconsin can be obtained from the Wisconsin Division of Public Health at 608/267-9003.
- A small proportion (7%) of cases likely were exposed in several other Minnesota counties (primarily those adjacent to endemic counties), and 3% were exposed in states other than Minnesota or Wisconsin.

Use of the Lyme Disease Vaccine

The vaccine is licensed only for persons 15 to 70 years of age and will most benefit persons at **high risk** for Lyme disease (e.g., those who live, work, or play in areas with infected deer ticks **and** who have frequent or prolonged exposure to tick-infested habitat during deer tick season). Individuals at **moderate risk** for Lyme disease (e.g., those who live, work, or recreate in areas that have infected deer ticks but whose exposure to tick-

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infested habitat is neither frequent nor prolonged) may benefit from the vaccine. However, if persons at moderate risk take precautions against ticks and seek early diagnosis and treatment of suspected Lyme disease, it is unclear whether vaccination provides additional benefits. The vaccine is not recommended for persons at **low risk** (e.g., those who reside, work, or recreate in areas without deer ticks and/or deer tick habitat). Persons with a history of Lyme disease may be reinfected if they continue to engage in high-risk activities. Therefore, consider vaccination for individuals with a history of uncomplicated Lyme disease.

Vaccination is **not** recommended for:

- persons younger than 15 years or older than 70 years of age;
- pregnant women; or
- persons with treatment-resistant Lyme disease arthritis.

Check the vaccine package insert for detailed prescribing information.

The vaccine is given at 0, 1, and 12 months (shorter vaccination schedules are being studied by SmithKline Beecham but have not been reviewed or approved by FDA). Clinical trials have shown the vaccine to be 50% effective after the second dose and 79% effective after three doses. Duration of protection is unknown, but booster doses after the initial three doses may be needed to sustain immunity. The timing of boosters has not yet been determined.

While most adverse reactions to the vaccine appear to be minor, there are theoretical concerns that individuals with certain HLA-DR4 alleles may have an increased risk of treatment-resistant Lyme arthritis associated with reactivity to OspA. Studies to date have not demonstrated an increased risk of arthritis associated with the vaccine. However, the prescribing information recommends that Lymerix™ not be administered to patients with treatment-resistant Lyme arthritis.

Since vaccination is not 100% effective against Lyme disease and offers no protection against other diseases transmitted by *I. scapularis* (e.g., human granulocytic ehrlichiosis and babesiosis), the following other precautions should be taken:

- know if you live, work, or recreate in a county that has deer ticks;
- avoid wooded or brushy deer tick habitat when possible (especially from mid-May through July);
- wear protective clothing to create a barrier against ticks (e.g., tuck pant legs into socks and tuck long-sleeved shirts into pants);
- wear light-colored clothing to make ticks easier to see;
- consider using a tick repellent (follow label instructions);
- frequently check your body for ticks and promptly remove any that are found; and
- be aware of early signs and symptoms of tick-borne diseases and seek early diagnosis and treatment.

Additional Information

For clinical or epidemiologic information about Lyme disease or to report a case of Lyme disease, contact the MDH Acute Disease Epidemiology section at 612-676-5414 or (toll-free) 877-676-5414. Vaccine information can be obtained from the MDH Acute Disease Prevention Services section at 612-676-5100 or (toll-free) 800-657-3970. This information also is available at the MDH web site: http://www.health.state.mn.us (from the home page, scroll down to “quick links” and click on “Lyme disease”).

Reference

1. CDC. Recommendations for the use of Lyme disease vaccine. Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1999;48(RR-7).

West Nile Encephalitis: A Newly Introduced Arbovirus in North America and Its Implications for Minnesota

During the late summer of 1999, an outbreak of arboviral encephalitis was detected in the New York City area. While the outbreak initially was suspected to be St. Louis encephalitis, it was determined that West Nile encephalitis virus (a closely related flavivirus) was the agent involved. This virus normally is found in parts of Africa and Europe and had not been seen previously in North America. The virus normally circulates between *Culex* genus mosquitoes and wild birds. During the New York City outbreak, 62 cases of West Nile encephalitis (including seven fatalities) were reported. A serosurvey conducted in northern Queens (at the center of the outbreak) found that 2.6% of residents had been exposed to the virus, although most had no history of illness compatible with West Nile encephalitis. Thousands of wild birds (especially American crows) also were killed by the virus. Recent reports confirm that the virus overwintered successfully in *Culex* mosquitoes, and the virus also was isolated from a red-tailed hawk found dead in February in Westchester County, New York.

As with other neurotropic arboviruses, most cases of West Nile encephalitis are clinically inapparent; however, some persons experience a febrile illness with a wide variety of neurologic manifestations, ranging from mild aseptic meningitis to fulminant and fatal encephalitis. Symptoms may include headache, stiff neck, confusion or other mental status changes, nausea, or vomiting. Clinical signs may include fever, meningismus, cranial nerve abnormalities, paresis or paralysis, sensory deficits, altered reflexes, abnormal movements, convulsions, and coma. Arboviral meningitis or encephalitis cannot be clinically distinguished from other central nervous system infections. Of particular note during the

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1999 New York City outbreak, 40% of cases had severe muscle weakness similar to botulism or Guillain-Barre syndrome. Of these, 20% developed flaccid paralysis with electromyographic findings consistent with an axonal neuropathy.

Implications for Minnesota

The current risk of transmission of West Nile Virus (WNV) in Minnesota likely is very low. The Centers for Disease Control and Prevention anticipates that the risk of WNV will be highest in the New York area and surrounding states again this year. However, since viremic migratory birds could introduce WNV to new locations, and several species of *Culex* mosquitoes are found in Minnesota, the Minnesota Department of Health (MDH) is planning a multi-faceted surveillance effort including the following:

- Human case surveillance: MDH will increase surveillance for arboviral encephalitis. Viral encephalitis is reportable in Minnesota, and medical providers should report any suspected or confirmed cases to MDH within 1 working day. The MDH laboratory will conduct WNV serology on acute and convalescent (i.e., collected 3 weeks after the acute sample) serum samples. Serum can be sent to the MDH Public Health Laboratory at 717 Delaware St. SE, Minneapolis, MN 55414.
- Vector surveillance: MDH will work with the Metropolitan Mosquito Control District to monitor *Culex* mosquitoes and other potential vectors of WNV. The MDH laboratory will develop the capability to test mosquitoes for WNV. MDH also will monitor *Culex tarsalis* (the vector of Western equine encephalitis and a potential WNV vector) in northwestern Minnesota this summer.
- Wild bird surveillance: The New York outbreak demonstrated that wild birds may be the most sensitive indicator of WNV in an area. MDH is working with the Minnesota Department of Natural Resources to detect any unusual die-offs in bird populations (especially crows). Birds found during these events will be submitted to the United States Geological Survey National Wildlife Health Center laboratory in Madison, Wisconsin for WNV testing.
- Equine Surveillance: WNV also caused fatalities among horses on Long Island during the New York outbreak. Therefore, MDH will work with the Minnesota Board of Animal Health to monitor for equine cases in Minnesota.

Human Granulocytic Ehrlichiosis in Minnesota

Human granulocytic ehrlichiosis (HGE) is a bacterial disease transmitted to humans by *Ixodes scapularis* (deer tick or black-legged tick), the same tick that transmits Lyme disease. The HGE agent has not been named, but it is similar or identical to two veterinary pathogens (i.e., *Ehrlichia equi* and *Ehrlichia phagocytophila*). The disease was first recognized during 1993 in several patients from Minnesota and western Wisconsin. A human monocytic form of ehrlichiosis caused by *Ehrlichia chaffeensis* is found throughout much of southeastern and southcentral United States but does not appear to be an important vector-borne disease in Minnesota.

Epidemiology of HGE in Minnesota

From 1997 to 1999, 82 cases (19 confirmed and 63 probable cases) of HGE were reported in Minnesota. Thirty-six (44%) of those cases occurred in 1999. Two (2%) of the 82 cases were fatalities. Similar to the demographics of Lyme disease in Minnesota, 62% of the HGE cases were male, and most reported likely exposure to infected ticks in the same east-central Minnesota counties where the risk of Lyme disease is greatest (see Figure 2 on page 20). The HGE cases ranged in age from 4 to 85 years; the median age (61 years) was older than that of Lyme disease cases (34 years). Peak onset of disease was from May to July (76% of cases), corresponding to the peak activity period for the nymph stage of *I. scapularis* (Figure 3). A secondary, smaller peak of disease onset occurred in October-November (16% of cases), corresponding to adult *I. scapularis* activity.

Clinical Presentation of HGE

Onset of illness occurs 1 to 3 weeks after exposure to an infected tick.

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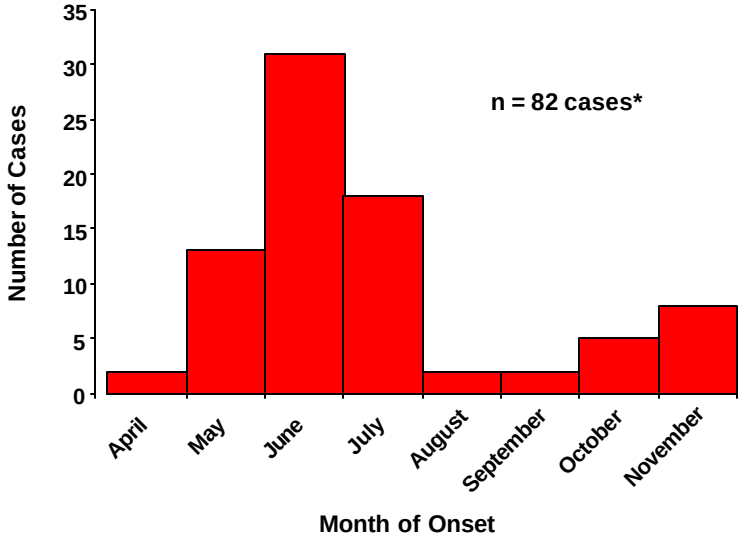
Figure 3. Reported Cases of Human Granulocytic Ehrlichiosis in Minnesota by Month of Onset, 1997-1999



* Cases include confirmed and probable cases.

Common signs and symptoms include fever (often over 102°F), chills, headache, and myalgias. Nausea, vomiting, anorexia, acute weight loss, abdominal pain, cough, diarrhea, and change in mental status are reported less frequently. Highly suggestive laboratory findings include leukopenia (WBC< 4,500/mm^3), thrombocytopenia (platelets <150,000/mm^3), and increased aminotransferase levels. Unusual presentations may be the result of coinfections with *Borrelia burgdorferi* (Lyme disease agent) and/or *Babesia microti* (babesiosis agent), as a single feeding tick may transmit multiple disease agents.

Diagnostic Tests and Case Definitions

An indirect immunofluorescence assay (IFA) is the principal test used to detect HGE infection. Acute and convalescent phase serum samples can be evaluated to look for a four-fold change in antibody titer to HGE. Intracellular inclusions (morulae) also may be visualized in granulocytes of Wright-stained blood. Lastly, polymerase chain reaction (PCR) assays are being used increasingly to detect ehrlichial DNA.

For surveillance purposes, a confirmed case of HGE is a clinically compatible illness with either: 1) a four-fold change in antibody titer by IFA in acute and convalescent phase serum samples, 2) PCR amplification of ehrlichial DNA from a clinical sample, or 3) a smear that is positive for morulae in the granulocytes and a single IFA titer of $\geq$1:64. A probable case is defined as a clinically compatible illness with a single IFA titer of $\geq$1:64 or the presence of morulae within infected granulocytes.

Treatment

HGE patients typically respond dramatically to doxycycline therapy (100 mg twice daily until the patient is afebrile for at least 3 days). Other tetracycline drugs also are likely to be effective. In general, even if the diagnosis of ehrlichiosis is not confirmed, patients with unexplained fever after a tick exposure should receive empiric doxycycline therapy, particularly if they experience leukopenia and/or thrombocytopenia.

Reporting

Minnesota Rules Governing Communicable Diseases require health care providers to report confirmed or suspected cases of ehrlichiosis to the Minnesota Department of Health (MDH) within 1 working day. Report cases by calling MDH at 612-676-5414 or (toll free) 877-676-5414 or by submitting a disease report card to: Minnesota Department of Health, Acute Disease Epidemiology Section, 717 Delaware Street SE, Minneapolis, MN 55440-9441. MDH staff also are available to provide clinical consultation regarding diagnosis and treatment of HGE and other tick-borne diseases.

Update: Sexually Transmitted Disease Needs Assessment and Statewide Plan

Background

In 1998, the state Legislature appropriated $300,000 to the Minnesota Department of Health (MDH) to assess the epidemiology of sexually transmitted diseases (STDs) and related services in Minnesota and to develop a comprehensive plan for reducing STD infections and increasing access to treatment.

The assessment included review of local Community Health Service (CHS) agencies' plans; interviews with a variety of stakeholders; and surveys of CHS agencies, youth, diagnostic laboratories, and physicians to determine knowledge about STDs and to identify gaps in services. MDH also contracted with Community Fitness Today to perform an STD needs assessment of African American youth in several communities in Minneapolis with high rates of STDs and with the Family Tree Hotline to evaluate public awareness needs regarding STDs in Greater Minnesota.

Physician Survey

A survey was sent to a random sample of 850 licensed physicians in Minnesota with specialties related to reproductive health care. Preliminary analyses of the data demonstrate a need for increasing provider awareness of STD trends, screening and treatment guidelines, risk assessment standards, partner services, and reporting requirements.

Laboratory Survey

A survey of 167 diagnostic laboratories was conducted, including all laboratories that report results to MDH. Results indicate that various tests with a wide range of accuracy are used to diagnose STDs. Only four (2%) of 167 laboratories do testing or typing for human papilloma virus (HPV). Reporting to MDH is inconsistent, and there appears to be confusion about who is required to report positive results.

Comprehensive Statewide STD Prevention Plan

Using results from the statewide needs assessment, MDH developed a comprehensive plan to address STDs in Minnesota. The plan is organized into three areas with corresponding goals:

1. Develop STD-Related Infrastructure Statewide, including:
   - adequate support for local public health agencies and community partners;
   - increased availability and quality of clinical services;
   - improved partner services;
   - improved training opportunities;
   - improved public information; and
   - building, maintenance, and dissemination of expertise within MDH.
2. Eliminate Population-Specific Disparities in STD Prevalence and Incidence, including:
   - appropriate targeting of MDH's

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resources;

- improved partnerships and planning with affected communities;
- increased availability of targeted clinical services; and
- development of targeted prevention interventions.

3. Develop and Maintain Enhanced Information Systems, including:
   - improved disease surveillance;
   - improved dissemination of STD data; and
   - improved needs assessment and resource inventory.

Implementation of the Statewide STD Prevention Plan

Although implementation of the majority of activities outlined in the STD Plan would require additional resources, MDH staff prioritized and selected activities that can be accomplished within the next year without additional resources. Work on some of these objectives has begun, including plans for the development of an STD tool-kit for health care providers which would provide STD prevention and control information, including recommendations for STD screening and treatment.

Further Information

For additional information about the STD Needs Assessment Project or a copy of the STD Plan, contact Elaine Collison at 612-676-5204. The final results of the survey will be shared as they become available.

Jan K. Malcolm
Commissioner of Health

Division of Disease Prevention and Control

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