

# Hawaii Epi Bulletin

HAWAII STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

Spring 2017

### Angiostrongyliasis (Rat Lungworm)



A. cantonensis Juvenile semi-slug

Angiostrongyliasis, also known as rat lungworm disease, is caused by the parasitic nematode *Angiostrongylus cantonensis*. It is a disease that affects the brain and spinal cord, causing a type of meningitis (eosinophilic meningitis). The severity of symptoms can range greatly, from no or mild symptoms to severe neurological symptoms, or even death in rare cases. Most commonly, symptoms including severe headache, nuchal rigidity, paresthesias, low-grade fever, nausea, and vomiting are reported. In some cases, a temporary paralysis of the face or light sensitivity may also be present. The onset of symptoms typically ranges from one to three weeks after exposure to the parasite. They generally last two to eight weeks, although, in some cases they have been reported to last for longer periods of time.

The adult form of *A. cantonensis* is only found in rodents; however, rodents can pass larval parasites in their feces which can then infect other animals, such as snails, slugs, freshwater shrimp, land crabs, or frogs. The larvae continue to develop in these intermediate hosts. Then, if the intermediate hosts are eaten by rats, the larvae infect the rats and continue to develop into their adult form, continuing the cycle. Humans can become infected by *A. cantonensis* if they eat raw or undercooked snails, slugs, or other intermediate hosts (intentionally or otherwise) that contain the larvae. The larvae cannot develop further in humans and will eventually die; they cannot be transmitted from person-to-person.

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There is no specific treatment for the disease. Supportive care, analgesics for pain relief, and corticosteroids to limit the inflammatory reaction can be given to provide some relief to the symptoms. The use of antihelminthic drugs has not been shown to be effective, and there is a risk that using them could the neurological exacerbate symptoms of the because inflammatory response of the body to the dying parasites.

In Hawaii, the vectors that can carry the larval stage that is infective to humans are found statewide on all islands. The most effective way to prevent cases of the disease is by thoroughly inspecting and washing all produce and storing it properly. Practicing good rodent and slug/snail control methods, especially if you have a home garden, also reduces the possibility of exposure.

### **Preventing Angiostrongyliasis**

### **Preparing Food:**

- Wash your hands and work surfaces.
- Separate and thoroughly wash and inspect your produce, especially leafy greens.
- Store produce and other food items in properly sealed containers.
- Do not eat raw or undercooked snails, slugs, freshwater shrimp, land crabs, or frogs.
- Cook snails, freshwater prawns or any other suspect food products for 3–5 minutes (to an internal temperature of at least 165 °F).

### In your yard:

- Practice rodent and slug/snail control, especially if you have a home garden.
- If you handle snails or slugs, be sure to wear gloves and wash your hands.
- Be sure young children are watched while playing outdoors to prevent them from accidently putting a snail/slug in their mouths.
- Do not eat food directly from plants without thoroughly inspecting and washing it first.

Clinicians should consider angiostrongyliasis in patients that present with headache, nuchal rigidity, and a consistent exposure history. Patients may have other neurological symptoms present as well, including sensory nerve abnormalities, paresthesias, paresis, or other deficits depending on where larvae have migrated in the brain. **HDOH requires that clinicians report patients with eosinophilic meningitis.** If a clinician suspects angiostrongyliasis in a patient, testing using polymerase chain reaction (PCR) on cerebrospinal fluid specimens is available through the State Laboratories Division (SLD). Clinicians should report the suspect case to the Hawaii Department of Health (HDOH) to coordinate testing by calling the disease reporting line at **(808) 586-4586**.

### For more information on angiostrongyliasis, go here.

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### Stamping Out Resistance: Outpatient Antibiotic Stewardship in Hawaii

Antimicrobial agents, which include antibiotics and similar drugs, have been used over the past 70 years to treat patients who have infectious diseases. Although these drugs have significantly reduced illness and death during this time period, overuse and misuse of antibiotics throughout the world has led to increasing prevalence of multi-drug resistant organisms. According to a <u>2013 report</u> by the Centers for Disease Control and Prevention (CDC), at least 23,000 people die as a direct result of antibiotic resistant infections. National estimates have found that at least 30% of outpatient antibiotic prescriptions are unnecessary, and as much as half of outpatient antibiotic use in humans may be inappropriate.<sup>1,2,3</sup> In order to address this issue, the CDC recently released the <u>Core Elements of Outpatient Antibiotic Stewardship (Core Elements)</u>, which provides guidance for antibiotic stewardship implementations for clinicians and facilities which provide antibiotic treatment in the ambulatory setting.

Antibiotic stewardship refers to coordinated efforts aimed at promoting appropriate use of antimicrobials, including ensuring antibiotics are only used when needed, as well as making certain the right drug, dose, and duration are selected. The Core Elements contain the following four components with the goal of minimizing individual and community level harms while maximizing the benefit of antibiotic therapy:

- Commitment: Demonstrate dedication to and accountability for optimizing antibiotic prescribing and safety
- Action for Policy and Practice: Impleme nt at least one policy or practice to improve antibiotic prescribing
- Tracking and Reporting: Monitor prescribing practices and offer feedback
- Education and Expertise: Provide educational resources and ensure access to expertise on optimizing antibiotic prescribing

In the outpatient setting, this entails targeted messaging and education surrounding judicious use of antibiotics within hospital-based outpatient clinics, nonhospital-based clinics and physician offices, ambulatory surgical centers, and other specialized settings.

Antibiotic stewardship can prevent avoidable complications and adverse events of unnecessary antibiotic use, such as Clostridium difficile infection, through reducing antibiotic prescribing and ensuring that, when appropriate, antibiotics are correctly prescribed and administered. The Core Elements of Outpatient Antibiotic <u>The Coordinator's Corner</u> Healthcare-Associated Infections (HAI)

Stewardship will support these efforts through the creation of antibiotic stewardship checklists for both clinicians and facilities operating in ambulatory settings.

Additionally, posters, fact sheets, and quiz widgets, among other resources regarding antibiotic stewardship, are currently available as part of CDC's annual Get Smart About Antibiotics Week Partner Toolkit. The toolkit provides clear messaging regarding antibiotic resistance and stewardship, culminating with the powerful fact that if patients, medical providers and communities do not begin to take better care of the antibiotics available today, these antibiotics and everything they support could become obsolete.

### UNDERSTANDING INAPPROPRIATE ANTIBIOTIC USE

Inappropriate antibiotic use can refer to two types of antibiotic misuse: when an antibiotic is prescribed, but not needed or when the wrong antibiotic, dose, or duration is chosen.

Unnecessary Use/Overuse

#### Misuse/Incorrect Prescription





Example: A 40-year-old woman is diagnosed with bronchitis and prescribed an antibiotic, even though national guidelines recommend against prescribing antibiotics for bronchitis. Example: An 8-year-old boy is diagnosed with strep throat and needs an antibiotic to treat it, but the antibiotic prescribed is the wrong one, or the dose is too low, or the duration is too long.

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 Gonzales R, Malone DC, Maselli JH, Sande MA. Excessive antibiotic use for acute respiratory infections in the United States. Clinical Infectious Diseases 2001. Sep 15;33(6):757-62.



### **Don't forget about Mumps!**

Although the incidence of cases of mumps in the United States has decreased since the measles-mumps-rubella (MMR) vaccine became a routine childhood vaccination, cases of infection and outbreaks still occur. Since January 1, 2017 the Centers for Disease Control and Prevention have received 1,965 reports of mumps infections nationwide as of March 25, 2017. In Hawaii, 8 confirmed cases have been reported since the beginning of 2017.

Mumps infection usually presents with pain, tenderness, and swelling in one or both of the patient's parotid salivary glands, with the swelling peaking after 1 to 3 days then subsiding within the following week. Fever, headache, myalgia, anorexia, and malaise may preceed the parotitis. Clinicians should consider mumps in patients that present with compatible symptoms, especially if they have a history of travel to an area where there is active mumps transmission occuring. **Healthcare providers should report any suspected cases of mumps to HDOH immediately by calling the disease reporting line at (808) 586-4586**.

More information on mumps can be found <u>here</u>.

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### Zika: An Emerging Conundrum (Webinar)



This webinar, presented by Dr. Sarah Park, HDOH State Epidemiologist, covers what is known regarding the signs, symptoms and epidemiology of Zika infection, the measures to prevent Zika infection, and the management of pregnant women and infants potentially infected with Zika. Additionally, it reviews the responsibility of clinicians to report arboviral diseases immediately to the Department of Health. To access the free webinar, follow the link below.

### Zika: An Emerging Conundrum

## Updates from the Pacific

### Dengue

Dengue (DENV-2) outbreaks are ongoing in Vanuatu, Solomon Islands, Fiji, and Nauru. A
dengue outbreak is also ongoing in New Caledonia with DENV 1-3 identified in circulation.

#### Mumps

As of April 7, 2017, there have been 329 cases (29 confirmed) of mumps identified in the Marshall Islands since October 2016. The weekly number of cases is increasing, with the majority of cases in the 10–14 years age range.

### **Hepatitis A**

 In the Marshall Islands, a total of 154 confirmed cases of hepatitis A have been identified as of March 31, 2017. The majority of cases have been in preschool children, and the number of new cases are decreasing.

### HDOH Hawaii Health Care Provider Disease Reporting Categories

#### **Confide ntial**

Infections/diseases which may carry a social stigma are to be reported with extra precautions to assure patient confidentiality. Reports are to be submitted within three working days of diagnosis.

#### Urgent

Diseases or conditions that are suspicious or presenting with novel symptoms that may or may not be part of a known disease or disease complex, labeled "urgent" shall be **reported by telephone as soon as a provisional diagnosis is established**.

The telephone report shall be followed by a written report submitted by mail or fax within three days to the Disease Outbreak Control Division, Disease Investigation Branch on Oahu or to the District Health Office on the neighbor islands.

#### Routine

Diseases labeled "routine" shall be reported by mail, by telephone, or fax to the Disease Outbreak Control division, Disease Investigation Branch on Oahu or to the District Health Office on the neighbor islands.

#### Routine/Enteric (enteric prevention priority)

Diseases labeled "routine—enteric prevention priority" shall be reported by telephone as soon as a working diagnosis is established if the individual case is a food handler, direct care provider, or pre-schoolaged child. Otherwise, routine reports may be submitted.

#### **Outbreak Reports**

Any disease shall be reported by telephone when observed to occur clearly in excess of normal expectancy as determined by the healthcare provider or the Director of Health. The telephone report shall be followed by a written report submitted by mail or fax within three days to the Disease Outbreak Control Division, on Oahu or to the District Health Office on the neighbor islands.

### **HDOH Telephone Numbers**

Oahu (Disease Investigation Branch) (808) 586-4586

Maui District Health Office (808) 984-8213

Kauai District Health Office (808) 241-3563

Big Island DHO (Hilo) (808) 933-0912

**Big Island DHO (Kona)** (808) 322-4877

After hours (Oahu) (808) 566-5049

After hours (Neighbor islands) (808) 360-2575

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