Listeriosis

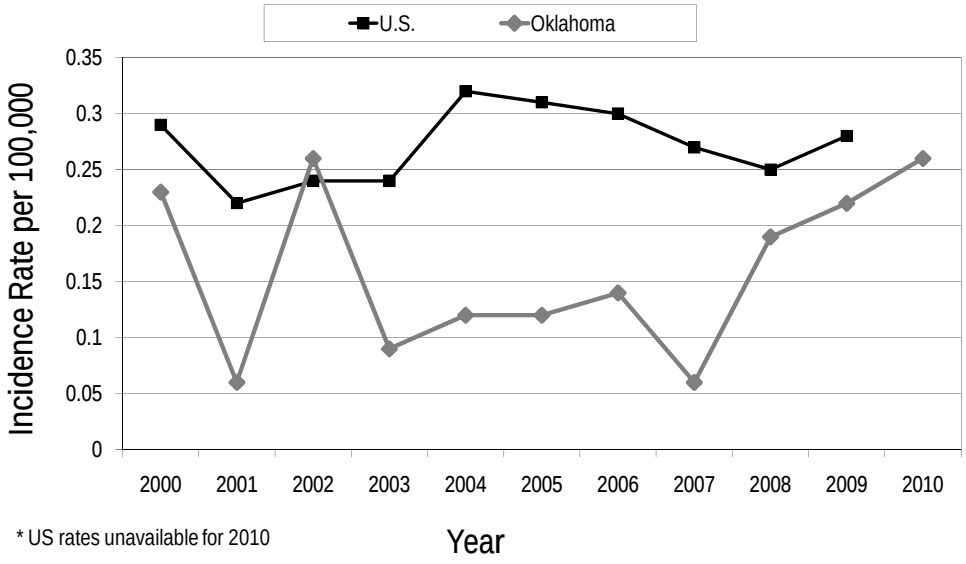
2010 Case Total	9	2010 Incidence Rate	0.26 per 100,000
2009 Case Total	8	2009 Incidence Rate	0.22 per 100,000

Listeriosis is an uncommon but serious infection caused by the bacteria *Listeria monocytogenes*. Although most listeriosis infections involve mild illnesses not requiring medical care, *Listeria* is responsible for approximately 1,591 of the estimated 9.4 million foodborne illnesses and an estimated 257 deaths per year in the U.S.[i] Pregnant women are about 20 times more likely than healthy adults to acquire the disease. In pregnancy, the infection can be passed to the fetus and in some cases cause premature delivery, infection of the newborn, or stillbirth. Newborns, rather than the mothers, experience the serious effects of infection during pregnancy; the case-fatality rate is 20 to 30% in infants born alive and the occurrence of abortion and stillbirth increases the overall mortality rate to more than 50%.[ii] Other specific groups at increased risk include persons with weakened immune systems such as those with cancer, diabetes, kidney disease, AIDS, those who take glucocorticosteroid medications, and individuals older than 60 years.

In Oklahoma, 9 cases of listeriosis were reported to OSDH resulting in an incidence rate that was higher than the previous five year average (2005 through 2009) incidence rate of 0.15 per 100,000 population. *Listeria* was isolated from blood for seven cases (78%), from cerebrospinal fluid for one case (11%), and from placenta for one case (11%). All nine cases were hospitalized and two (22%) cases died due to *Listeria* sepsis. The case ages ranged from 1 day to 77 years and all nine cases were female. Seven (78%) of the cases were White, one was Asian (11%), and one (11%) race was unknown. Two (25%) of the eight cases were Hispanic. Five cases (56%) reported consuming soft cheeses and four cases (44%) reported consuming ready-to-eat deli meats. Six (67%) cases were over the age of 60 and two of the six had a history of underlying medical conditions that compromised their immune system. Two (22%) cases were pregnant at the time of illness.

Most cases of listeriosis are sporadic; however, outbreaks due to consumption of contaminated food have been identified. Prompt reporting of cases can help in the early detection of an outbreak, identification of the sources of infection, and prevention of additional cases. The Communicable Disease Reporting Rules (OAC 310: Chapter 515) require that *Listeria* isolates grown from sterile sites (e.g. blood, cerebrospinal fluid, etc.) be sent to the OSDH Public Health Laboratory (PHL) for confirmation and identification. The PHL then performs pulsed-field gel electrophoresis (PFGE) to identify subtypes. PFGE data is shared through PulseNet, a national electronic database coordinated through the Centers for Disease Control and Prevention (CDC). The CDC and participating laboratories monitor the database for clusters of PFGE patterns, which are then further investigated to detect common exposures. This program assists in detection of outbreaks of many diseases each year, even when affected persons are geographically separated, facilitating faster investigation and implementation of control measures. When a food item is implicated in an illness caused by *Listeria*, actions are taken to identify the source and remove the implicated food from further consumption. PFGE analysis of isolates from cases reported during 2010 revealed none of the cases had a similar PFGE pattern suggesting an outbreak due to a common exposure or were associated with a multistate outbreak due to a widely distributed product.

Listeriosis Incidence Rate by Year, Oklahoma and U.S., 2000-2010*



* US rates unavailable for 2010

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[i] Scallan E, Hoekstra RM, Angulo FJ, Tauxe RV, Widdowson MA, Roy SL, Jones JL, Griffin PM. Foodborne illness acquired in the Unites States – Major pathogens. Emerg Infect Dis. 2011 Jan;17(1):7-9.

[ii] Mandell, Douglas, and Bennett's principles and practice of infectious diseases / [edited by] Gerald L. Mandell, John E. Bennett, Raphael Dolin.-6th ed. p. 2478-2483.