Foodborne Botulism in Alaska

Alaska Fights Foodborne Botulism by Educating Healthcare Providers and Supplying Antitoxin Kits
Alaska pre-positions botulinum antitoxin throughout the state to reduce morbidity and mortality from foodborne botulism, a unique example of how to plan ahead for an emergency situation at the state level.

Foodborne botulism resulting from consumption of uncooked fermented seafood has been an endemic hazard among Alaska Native populations for centuries. The mean annual incidence of foodborne botulism among Alaska Natives during the period of 2000-2007 was slightly less than 800 times the overall U.S. rate. Early diagnosis, administration of botulinum antitoxin, and access to mechanical ventilatory support, combined with public and provider education, are critical for decreasing botulism incidence, morbidity, and mortality rates.

Steps Taken

- The Alaska Division of Public Health, in partnership with CDC, has prepared culturally appropriate educational materials focusing on safer traditional fermentation processes.
- The department of health educated Alaskan healthcare providers about the importance of prompt clinical diagnosis, reporting, and administering antitoxin.
- State public health staff package antitoxin kits and supply them to hospital pharmacies located in areas most likely to need the antitoxin, based on historical usage. The kits consist of a vial of heptavalent botulinum antitoxin, instructions, and ancillary supplies.
- State public health staff track kit usage carefully and promptly distribute replacement kits.
- Most rural hospitals are equipped with mechanical ventilators, and those that aren't have a low threshold for prompt emergency evacuation for suspected botulism patients.
- The Alaska State Public Health Laboratory continues to test clinical specimens and food for botulinum toxin.

Results

- Antitoxin is rapidly available to providers caring for botulism patients in Alaska.
- The incidence of foodborne botulism in Alaska has decreased substantially in recent years.
- The case fatality rate of foodborne botulism in Alaska has decreased from a little less than 40 percent in the 1960s to slightly more than 5 percent currently, based on provider awareness and the ability to quickly provide antitoxin.

Lessons Learned

- Improved public health and clinical interventions have dramatically decreased the incidence, morbidity, and mortality of foodborne botulism in Alaska over the past several decades.
- Across time, botulism incidence among Alaska Native persons has remained higher in females and older age groups, likely due to more frequent consumption of uncooked aquatic game foods in these demographic groups. Prevention efforts that target these groups are warranted.
- Foodborne botulism incidence remains higher during the summer months, likely due to warmer temperatures and seasonal dietary variations. Botulism awareness reminders are most timely when disseminated during the spring and summer months.

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