

Navigating through muddy waters to the correct diagnosis of infantile botulism

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The topic of botulism appears frequently in today's media, whether to warn of its potential role in bioterrorism or the use of botulinum toxin for various medical and cosmetic interventions.

Regarding natural infection, the recent outbreak of botulism in California in the United States (BBC News) reinforces that the ingestion of contaminated food sources is typically the first mode of transmission considered in this disease. Cheese was the implicated food source in the California outbreak. In cases of infantile botulism, honey is the classic food implicated (Smith et al), and clinicians are taught to ask about honey ingestion when infantile botulism is suspected. Clinicians need to be reminded that even the youngest of infants can also acquire this rare disease by exposure to contaminated soil (Domingo et al). And the infants don't need to be outside - some can be infected by exposure to wet soil and sewage that has been tracked inside by pets or ambulatory family members. A careful history is paramount. Infantile botulism is not usually the first diagnosis considered when a patient presents with lethargy, hypoxia, decreased urine output and constipation; sepsis and metabolic disorders typically come to mind. Timely consideration of the diagnosis of infantile botulism is crucial, as treatment with baby botulism immune globulin (California Department of Public Health) can significantly decrease the length of hospital stay in affected patients.

Our institution is located in the Appalachian region of the upper Southern area of the Eastern United States and we care for one pediatric patient with botulism every two to three years. Botulism has been documented as occurring in dozens of other countries, with the detection of toxin-producing spores in the soil from various areas around the world (Caballero et al; Baumgardner; Smith). As opposed to botulism in adults which typically results from the ingestion of the pre-formed botulinum neurotoxin in contaminated foods, infantile cases result from the ingestion of botulinum spores which germinate in the intestinal tract and produce the toxin. Soil is a prime medium for these spores.

We emphasize two tenets of medical diagnostics: rare medical entities, such as botulism, must be kept in mind when evaluating a patient with not-so-rare symptomatology; and obtaining a thorough environmental history (such as exposure to soil) is crucial, as it will assist the clinician in navigating through the muddy waters of the evaluation process.

For more information on botulism please check our new Best Practice topic.

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Further recommended reading

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