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When Home Cooking Turns Hazardous: Two Botulism Cases

Rodolfo Nasti*, Alessandro Manzoni, Olga Avola, Maria Marolo, Silvio De Lucia, Luigi Vizzino, Matteo Bartolini, Alessia Capasso, Gennaro Maria Borrelli, Giovanni Vitiello and Lavinia Saldamarco

Ospedale Evangelico Betania, Italy

***Corresponding author**
Rodolfo Nasti, Ospedale Evangelico Betania, Italy.

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Introduction: Botulism is a rare, potentially life-threatening neurotoxin-mediated disease caused by the anaerobic, gram-positive bacterium Clostridium botulinum, and occasionally by related species such as C. baratii and C. butyricum. The diagnosis of botulism relies on clinical suspicion and a comprehensive neurologic examination. Timely diagnosis is crucial.

Case Report: A 62-year-old woman presented to our department with diplopia, dysarthria, dysphagia, and hoarseness, which had developed over the past four days. She had a recent history of vomiting 48 hours after consuming homemade pumpkin preserves, followed by the onset of dysphagia, diplopia, dysarthria, and hoarseness 48 hours later. Neurological examination revealed dysphonia with a "hoarse" voice and an asymmetry of the pharyngeal reflex, more pronounced on the right. Laboratory tests showed no significant abnormalities. Brain CT scan results were unremarkable. Botulinum toxins were detected in her blood, and botulinum toxin-producing clostridia were found in rectal swabs. A diagnosis of foodborne botulism was established, and botulinum antitoxin was administered. The patient's symptoms improved rapidly, with diplopia being the only persisting symptom. She was discharged after 7 days with indications for orthoptic rehabilitation. Several days later, the patient's husband, who had also consumed the homemade preserve, was admitted to the emergency room with similar symptoms, including constipation, dysphagia, dysarthria, diplopia, and eyelid ptosis. Botulinum toxins were not detected in his blood, but botulinum toxin-producing clostridia were found in rectal swabs. He received antibotulinum serum, leading to symptom improvement. He was discharged after five days with mild eyelid ptosis, and orthoptic rehabilitation was recommended.

Discussion: Foodborne botulism is diagnosed based on neuromuscular symptoms and a history of ingesting potentially contaminated food. Simultaneous symptom onset in individuals who consumed the same food supports the diagnosis, which can be confirmed through the detection of C. botulinum toxin in serum or feces. Botulinum toxins are highly resistant to degradation and can be found in various types of food, particularly in homemade canned goods with low acidity and occasionally in commercially prepared foods.

Symptoms of foodborne botulism typically begin 18-36 hours after toxin ingestion, with an incubation period ranging from 4 hours to 8 days. Treatment primarily consists of supportive care and botulinum antitoxin administration. Administering antitoxin early in the illness course improves outcomes, while delays can be less effective. It's important to report all patients receiving antitoxin to health authorities.

The heptavalent antitoxin, derived from horse serum, carries a risk of anaphylaxis or serum disease [1-7]. Immunity does not develop after infection, and new recombinant vaccines are under investigation. The administration of botulinum antitoxin reduces mortality, duration of intensive care unit treatment, and hospitalization duration.

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