Deadly Threat in the Preserving Jar

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Objective

Botulism is a rare cause of foodborne poisoning. In Germany, almost 20 cases of botulism are registered by the Robert Koch Institute every year. Most of them are caused by the consumption of home-canned vegetables.

Case report

First Day of admission

Patient A, 47-year-old woman
Initial symptoms were diplopia and dizziness during the preceding night.

Diagnostic Measurements:
Brain stem insult was excluded by cranial computed tomography.

Further course
Within one day, however, the patient’s condition dramatically worsened with bilateral ptosis, progressive dysphagia, dysarthria, and respiratory insufficiency requiring intubation and artificial ventilation.

Further treatment
Although the woman was treated with neostigmine, a paralytic ileus occurred. Gut motility successfully was restored by the buccal application of pilocarpine and prucalopride.

Discussion
Botulinum toxin A-induced constipation and ileus might be life threatening complications of botulism. Because botulinum toxin A inhibits the release of acetylcholine in the neuromuscular junction (Fig. 1), the administration of cholinesterase inhibitors like neostigmine might not be successful to improve bowel-movement due to the lack of acetylcholine. In these cases, administration of substances that act as agonists on muscarinergic or 5-HT4 receptors could be more promising to overcome paralytic ileus in botulism.

Conclusion
The reported case demonstrates the classical symptoms and the typical course of foodborne botulism. Besides respiratory insufficiency requiring artificial ventilation over a long time period, the inhibition of gut motility became life threatening. The paralytic ileus caused by botulin toxin A was treated successfully with a combined administration of a muscarinic and a 5-HT4 receptor agonist.