Diagnosis of Botulism

Botulism is a very rare disease. Few physicians have seen a case ... not even one. As a result, they don't think of the diagnosis and can confuse botulism with other acute neurologic disorders. In my job with the health department, I have seen several cases and can tell you about the disease. The clinical syndrome of botulism is dominated by neurologic symptoms and signs:

- Dryness of the mouth, drooping eyelids (ptosis), and blurred and double vision (diplopia) are usually the earliest neurologic complaints.
- These initial symptoms may be followed by disturbances in speech (dysphonia), difficulties swallowing (dysphagia), and peripheral muscle weakness.
- If respiratory muscles are involved, ventilatory failure and death may result unless supportive care is provided.

Here is a patient with botulism. As you can see, he has drooping eyelids. Even when asked, he could not open his eyes any wider. To look up, he had to tilt his head back and look through the slits. The drooping eyelids resulted from a weakness in the muscle that opens the eye.

This patient also had double vision. (This was due to a weakness in the muscles attached to the eyeballs.) His voice was nasal sounding because the muscles of the soft palate were paralyzed. He also complained of fatigue and weakness in his arms and legs. In fact, he was barely able to stand on his own.

The first time this patient was examined by his physician, he was sent home without any treatment. The physician thought he had the flu. When he went to the emergency department, botulism was suspected immediately. Antitoxin was administered and the patient improved dramatically.
Due to the difficulties in diagnosing botulism clinically, some cases and outbreaks may go undetected.

I remember an outbreak in 1985 where botulism was diagnosed in two teenaged sisters in Montreal. Investigation of the sisters led to the identification of 36 previously unrecognized cases who had eaten at the same restaurant in Vancouver, British Columbia. (St Louis ME, et al., 1988)* Some of the cases had become ill more than 6 weeks before the two sisters were diagnosed! Six weeks! Can you believe that? Thirty-one of the patients had been seen by a physician. Only three were given the correct diagnosis.

Unfortunately, delay in the diagnosis of botulism is not uncommon. In a review of 50 patients with botulism who required hospitalization, only 19 (38%) were admitted to the hospital after they were first seen by a physician because botulism was not suspected. (Hughes JM, et al., 1981)*

We have seen similar problems in the diagnosis of botulism in our own medical community. As a result, we encourage health care providers to call the health department immediately if they even suspect the diagnosis.