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ABSTRACTS

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(squeaking and pain from the hip joint) which indicated incorrect functioning of the device. On April 2013, he was referred to a cardiac intensive care unit for cardiogenic shock. A non-ischemic dilated myocardiopathy from an unspecified origin was diagnosed. He admitted an excessive alcohol intake due to a festive lifestyle. Thyroid function was unaffected. Eight months later, cardiac function dramatically improved (LVEF about 50%) whilst alcohol intake was stopped but beta-blocker, angiotensin converting enzyme (ACE) inhibitor and diuretic therapies were still needed. The cobalt blood concentration was 267.2 μg/L (normal < 0.91 μg/L). A CT scan showed massive osteolysis and granulomatous tissue reactions. A revision arthroplasty was performed and blood cobalt concentration decreased to 54.21 μg/L.
Conclusion: A recent review of published case reports of systemic toxicity related to metal hip prosthesis[1] evidences cardiotoxicity in 11 patients; the blood cobalt concentration exceeded 350 μg/L in most patients. As for heavy beer drinkers in the 1960s, alcohol intake reported in our case could have been a co-factor for cobalt-induced myocardiopathy but improvement required ongoing cardiac medications despite alcohol withdrawal.

Reference

1. Bradberry SM, Wilkinson JM, Ferner RE. Systemic toxicity related to metal hip prosthesis. Clin Toxicol (Phila) 2014; 52:837–47.

226. Clinical management of foodborne botulism poisoning in emergency setting: An Italian case series

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Objective: To evaluate the clinical presentation characteristics of foodborne botulism (FBo) poisoned patients admitted to Emergency Departments (EDs) to obtain clinical data useful for emergency physicians with suspect cases to help with diagnosis and early antidotal treatment.
Methods: A retrospective analysis of cases of FBo registered at Pavia Poison Control Centre (PCC) was performed during the study period (2007-2013). Implicated food, clinical presentation, latency between symptoms/ED admission/treatment, clinical course, response to the antidote administration and laboratory analysis data were analyzed.
Results: In total 98 cases were studied (mean age 55.14 ± 17.9; 53/98 male) and 17 outbreaks (involving more than 2 people) were registered. History was positive for consumption of vegetables (77%) and fish (16%) in water or oil, or meat conserve in 88.7% of cases. In 81 cases (93.2%) the causative food was home-made, in 4 cases it was industrial and in 2 cases the food was ingested at a restaurant. The most common symptoms reported in the ED were dysphagia (55.1%) followed by ocular manifestations including diplopia (40%), difficulty accommodating (32%), mydriasis (26%) and ptosis (18%), and xerostomia (35%). In three cases dys-

phagia was the unique neurological manifestation of the poisoning. Twenty-four patients (24%) required mechanical ventilation. Antitoxin was administered in 59 patients (60.2%), with an average of 63 hours after neurological symptoms onset; 26% were treated within 24 hours. In this group, 7 patients (26%) required mechanical ventilation (mean duration 13.6 ± 5.6 days) (versus 53.8% in treated group after 24 hours; mean duration 21 ± 15.5 days). Five adverse reactions were registered. Laboratory analysis confirmed the poisoning in 66.4% of cases; toxin type B was the most common identified (83.6%). Serotype A was isolated in 6 cases (12.2%); among these 83% required mechanical ventilation (p = 0.004). Permanent neurological sequelae occurred in 1 case. There was one death in this case series.
Conclusion: Botulism is a rare disease in which early correct diagnosis is difficult and may require a toxicological consultation. In Italy, more than 50% of FBo cases (average 29 cases/year) are managed by our PCC. This intoxication represents a medical challenge for emergency physicians. Clinical presentation in the ED can be undefined, diagnostic procedures problematic and patients must be monitored because of dramatic respiratory failure. So PCC support is essential for the diagnosis and the management of poisoned patients (e.g. specific laboratory tests, antidote treatment), and in the identification and surveillance of possible outbreaks.

227. Botulism caused by vacuum packed whitefish (*Corregonus lavaretus*)

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Objective: Botulism poisoning is rare and caused by toxins produced under anaerobic conditions by the bacterium *Clostridium botulinum*. There are 7 varieties (A-G) of the toxin. In the Nordic countries serotype E is the most common. It is prevalent in seabed vegetation ingested by various species of fish. The toxin binds irreversibly to presynaptic nerve terminals at the motor endplate inhibiting the release of acetylcholine. Autonomic cholinergic nerve terminals are also affected. Recovery is traditionally thought to be entirely dependent on the formation of new nerve terminals. Antitoxins can be given to halt progression of symptoms.
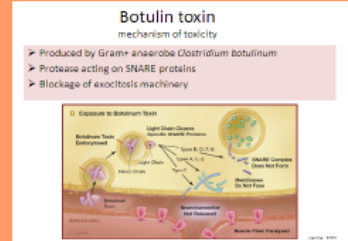**Case report:** A 54-year-old woman was admitted to the emergency department (ED) after waking up in the morning feeling extremely tired, weak and dyspneic. The symptoms progressed, and she experienced difficulties focusing her eyes and complained of double vision. The mydriatic pupils did not respond to light and extremity reflexes were very weak, but she had full tactile sense. She was intubated and put on a ventilator because of descending paralysis and rapidly declining breathing. A head CT scan and a CF-examination showed no abnormalities. Blood samples were all within the normal range. It was revealed that the patient had eaten vacuum packed whitefish approximately 36 hours before admission. The first symptoms appeared 12 hours after ingestion. A suspicion of botulism arose and the Swedish Poisons Information Centre was contacted for advice. Antitoxin was sent to the hospital and the patient received two vials (a minimum of 10,200 units of type E) of a heptavalent antitoxin. The presence of toxin type E was confirmed in samples from blood, gastric fluid and remaining pieces of the whitefish. The patient improved significantly and was extubated after 7 days. Although weak, she was able to walk.

RIGHTSLINK

Clinical management of Foodborne Botulism poisoning in emergency setting: the Italian case series.

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INTRODUCTION: Foodborne botulism (FBo) is the most common form of botulism in italy, because of the widespread employment of high risk homemade food-preservation techniques. Clinical suspicion makes possible undelayed treatment and rapid notification to authorities. Our study analytically reviews the clinical experience of the Pavia Poison Control Center (PCC). Our main goal is to evaluate clinical presentation characteristics of FBo poisoned patients admitted in EDs to obtain clinical data useful for emergency physicians to make clinical suspicion, diagnosis and early antidotal treatment.

Botulin toxin
mechanism of toxicity
➢ Produced by Gram+ anaerobe *Clostridium botulinum*
➢ Protease acting on SNARE proteins
➢ Blockage of exocitosis machinery

MATERIALS AND METHODS: A retrospective analysis of cases of FBo registered at PCC was performed during the study period (2007-2013). Implicated food, clinical presentation, latency between symptoms/ED-admission/treatment, clinical course, response to the antidotal administration and laboratory analysis data were analyzed.

RESULTS

98 cases of foodborne botulism were identified. 87 of them reported consumption of foods considered to be at risk: in 67 cases (77%) preserved vegetables were involved, in 14 cases (16,1%) fish in oil and in 6 cases (6,9%) preserved meat. In 81 cases the food involved was home-preserved.

Among acute-phase symptoms, the most common was <u>dysphagia</u> (55,1%). Ophtalmologic complaints were present in 77,55% of cases (ptosis, dyplopia, mydriasis, accommodation impairment). 26,5% of patients needed mechanical ventilation. One patient died, and 1 had severe neurological sequelae.

Antitoxin treatment were administered to 59 patients (60,2%), on average 63 hours (SD 68,5) after the onset of neurological complaints. Patients treated within 24 hours of neurological symptoms needed mechanical ventilation less often (7/26, 26%) compared to patients treated later (14/26, 53,8%). Five adverse reactions were observed (8,4%): 3 mild ones (rush, fever, vomiting, transient bronchospasm) and 2 serious (severe hypotension).

The diagnosis of foodborne botulism was confirmed by laboratory analysis in 65/98 cases (66,4%). Toxin serotype B was more often identified (83,6%). Serotype A was identified in 6 cases (12,2%).

Patients affected by serotype A required mechanical ventilation in higher percentage (83%) than patients affected by serotype B (19,5%)(p=0.004). One case (untreated with antitoxin) required intensive care for 300 days.

Demographics and geographical distribution of poisoning

Number of patients	98
Average age (years)	55,14 ±17,9 (range 5 - 89)
Male/Female	53/45
N outbreaks	17

n. of cases in each region

Signs and symptoms in Emergency Department

Antidote treatment

ANTITOXIN	YES		NO
N. PATIENTS (%)	59 (60%)		39 (40%)
	N= 52 complete data available		
Delay between neurological complains and presentation	< 24h 26 (50%) 15,60 ± 8,2 h	> 24h 26 (50%) 110,9 ± 60,1 h	-----
OroTracheal Incubation	7/26 (26%)	14/26 (53,8%)*	21 (40,3%)
OTI duration	13,6 ± 5,6 gg	21 ± 15,5 gg 1 sequelae 1 dead	6 – 300 days
Adverse reactions	5 cases (8,4%)		

Specific laboratory analysis

➢ 65/ 98 cases (66,4%) diagnosis confirmed
➢ Toxin identified in 49 cases

Serotype A → 5/6 (83%) OTI
Serotype B → 8/41 (19,5%) OTI → serotype A linked to higher chances of OTI(p=0.004)

CONCLUSIONS

Botulism is a rare disease in which early correct diagnosis is difficult and may require a toxicological consultation. This intoxication represents also a medical challenge for the emergency physicians. Clinical presentation at EDs could be undefined, diagnostic procedures could be problematic and patients must be monitored because of dramatic respiratory failure. So, the PCC support is essential for the diagnosis and the management of poisoned patients (e.g. specific laboratory tests, antidotic treatment), and in the identification and surveillance of possible outbreaks.