EPI Monthly Report

Florida Department of Health in Miami-Dade County

HTTP://MIAMIDADE.FLORIDAHEALTH.GOV/

Ciguatera Fish Poisoning Caused by Barracuda Consumption, Miami-Dade County

Anthoni Llau, PhD

Inside the Issue

Epidemiology, Disease Control & Immunization Services

8600 NW 17th Street

Suite 200

Miami, Florida 33126

Tel: (305) 470-5660

Fax: (305) 470-5533

Background

On July 2nd, 2015 the Office of Epidemiology Disease Control and Immunization Services (EDC-IS) obtained a Poison Control Center report regarding an individual who sought recommendations for ciguatera fish poisoning (CFP) symptoms. According to the report, the individual was still experiencing headache and tingling in hands, tongue, and feet three weeks after eating a barracuda. EDC-IS initiated an investigation and contacted the individual, who provided information regarding three additional persons with symptoms consistent with CFP who ate from the same barracuda. All four individuals were contacted and subsequently interviewed.

Case Investigation

The four ill individuals consisted of a male and three females, with ages ranging from 29 to 45 years. According to interviews, the male had caught a large barracuda offshore near a local marina on June 6th, 2015 and cooked/served the next day as large strip-shaped fried fillets. The entire fish was consumed by all four persons in one sitting, therefore no leftovers were available.

Case #1 was a female who experienced nausea two hours after consuming the barracuda. Within six hours, the case also developed symptoms of abdominal pain. Early the next morning (June 8th), the patient was admitted to a local hospital with additional symptoms of sweating and tingling of hands & legs. The patient was diagnosed with ciguatera poisoning and discharged the following day. On June 11th, the case visited a second emergency department (ED) due to ongoing symptoms of vomiting, diarrhea, nausea, and skin itchiness. The patient received supportive care and was discharged with food poisoning. On June 25th, the case visited an urgent care due to lingering symptoms. Similar to the previous ED visit, supportive care was provided resulting from food poisoning. On June 29th, the case contacted poison control, seeking recommendations to alleviate symptoms.

The second case was a female who developed abdominal pain and nausea approximately two hours after consumption of the fish. Early the next morning, she began to experience muscle and joint pain and subsequently visited an ED. In addition to initial symptoms, she experienced paresthesia, hot/cold temperature reversal, headache, and difficulty breathing. One week later, the case visited a second ED due to persistent symptoms of altered temperature sensation, paresthesia, palpitations, and nausea. During both visits, the case received supportive care and was discharged with CFP.

The third ill individual was also a female who developed nausea more than 24 hours after consumption of the barracuda. She later developed additional

symptoms including paresthesia, skin itchiness, myalgia, headache, and rash. After experiencing symptoms for one week, she visited a local ED where she received supportive care and was discharged with a diagnosis of an allergic reaction. The fourth individual was a male who only experienced mild gastrointestinal illness symptoms more than 24 hours after consumption of the fish. He did not develop additional symptoms nor seek medical care.

Discussion

CFP is a marine food-borne illness resulting from the ingestion of reef fish containing ciguatoxins produced by dinoflagellates of the genus Gambierdiscus. Toxin accumulates in tissues of fish that eat the algae and bioaccumulates up the food chain to larger reef fish and produce the poisoning when they, in turn, are consumed by humans. CFP often begins with gastrointestinal symptoms such as nausea, vomiting, and diarrhea. Neurological symptoms usually follow and may include hot/cold temperature reversal sensations, paresthesia (e.g. itchiness or tingling of extremities/mouth), numbness, dizziness, and muscle aches. Victims of ciguatera poisoning may also experience other symptoms such as weakness, dry mouth, rash, and blurred vision. Onset of symptoms frequently occurs from minutes to twelve hours after consuming the fish. Since there are currently no reliable methods used to confirm ciguatera poisoning in humans, diagnosis is based on symptoms and a recent history of eating reef fish. Leftover fish, however, can be tested for the presence of ciguatera-related toxins. Treatment is supportive with symptoms usually subsiding within days, however, neurological symptoms may persist for months. Use of intravenous (IV) mannitol has been suggested to provide improvement and even reverse acute CFP symptoms if given within 48-72 hours of toxic fish ingestion (Friedman et al. 2008).

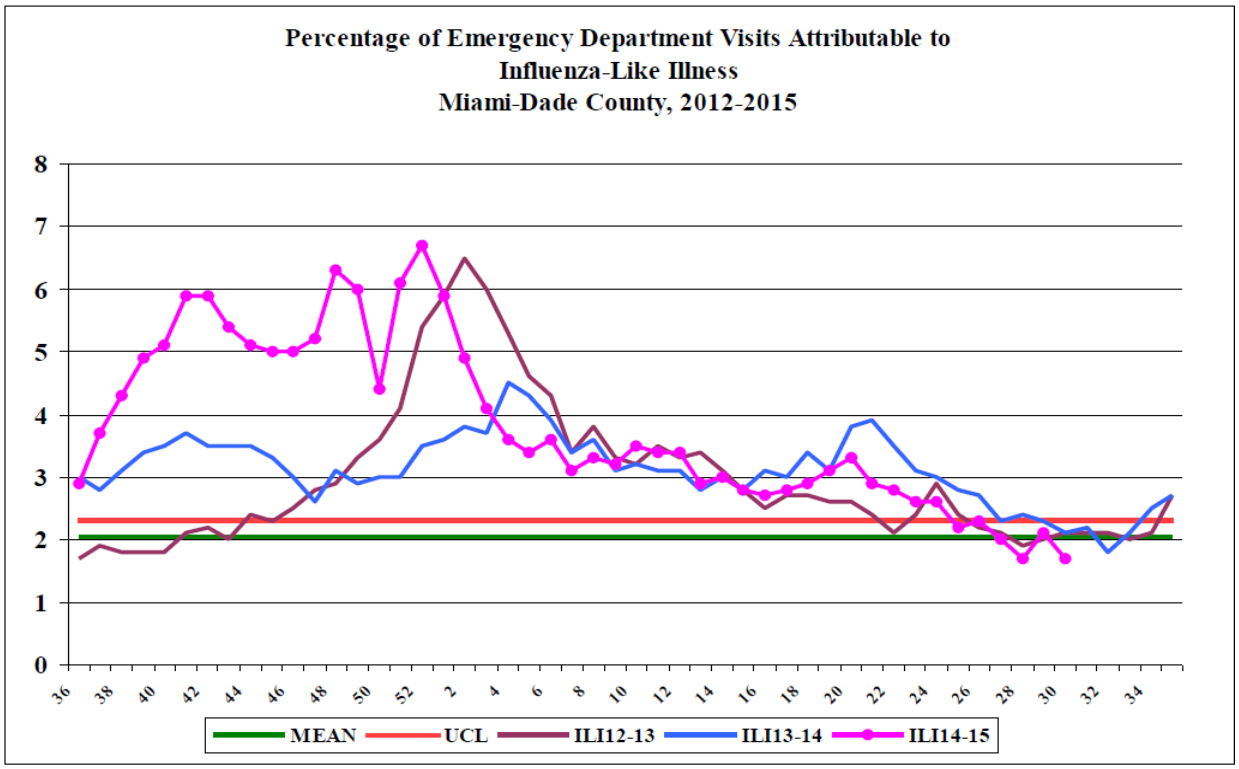
This report indicated that although three of the four exposed individuals sought medical attention, health department officials became aware of the outbreak through a poison control report. Ciguatera is the most commonly reported marine food-borne illness worldwide (approximately 50,000 cases occur worldwide annually) and is on the Florida Reportable Diseases/Conditions List, yet its true incidence is unknown due to underreporting. It is believed that fewer than 10% of ciguatera food poisoning cases are reported to health authorities (Lehane & Lewis, 2000; Fleming et al. 1997; Baden et al. 1995; Lawrence et al. 1980). Ciguatera is a significant cause of morbidity in Florida and other areas where reef fish consumption is common. Examples of marine species associated with ciguatera in Florida include barracuda, grouper, amberjack, snapper, tuna, kingfish, eel, trevally, seabass, mackerel, hogfish, and mahi-mahi. CFP is difficult to prevent because cooking fish will not kill the heat-stable toxin. One can reduce the risk of CFP by eating small reef fish (< 6 lbs) or avoiding fish with a greater likelihood of ciguatoxins. Local fisherman in endemic areas such as Florida often report being familiar of specific reefs and/or seasons to avoid while fishing (Friedman et al. 2008).

EPI Monthly Report

Florida Department of Health in Miami-Dade County

HTTP://MIAMIDADE.FLORIDAHEALTH.GOV/

Influenza-Like-Illness, All Age



During this period, there were 20,541 ED visits; among them 351 (1.7%) were ILI. At the same week of last year, 2.1% of ED visits were ILI.

TO REPORT ANY DISEASE AND FOR INFORMATION CALL:
Epidemiology, Disease Control & Immunization Services

Childhood Lead Poisoning Prevention Program	305-470-6877
Hepatitis	305-470-5536
Immunizations or outbreaks	305-470-5660
HIV/AIDS Program	305-623-7420
STD Program	305-575-5430
Tuberculosis Program	305- 575-5415
Immunization Service	305-470-5660
To make an appointment	786-845-0550

PARTICIPATE IN INFLUENZA SENTINEL PROVIDER SURVEILLANCE

Florida Department of Health in Miami-Dade County NEEDS Influenza Sentinel Providers!

Sentinel providers are key to the success of the Florida Department of Health's Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge.**

For more information, please contact

Lakisha Thomas at 305-470-5660.

About the Epi Monthly Report

The Epi Monthly Report is a publication of the Florida Department of Health in Miami-Dade County: Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, please contact Emily Moore at (305) 470-6918.

Miami-Dade County Monthly Report
Select Reportable Disease/Conditions
June 2015

Diseases/Conditions	2015 Current Month	2015 Year to Date	2014 Year to Date	2013 Year to Date
HIV/AIDS				
AIDS*	54	230	304	394
HIV	132	779	686	706
STD				
Infectious Syphilis*	27	152	169	164
Chlamydia*	942	4925	4821	5041
Gonorrhea*	188	903	993	1209
TB				
Tuberculosis**	4	49	62	63
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	47	182	179	137
Chikungunya Fever	2	10	0	0
Ciguatera Poisoning	0	5	9	9
Cryptosporidiosis	2	7	12	9
Cyclosporiasis	0	0	0	1
Dengue Fever	0	5	8	13
Escherichia coli, Shiga Toxin-Producing	0	0	8	2
E. coli, Non-O157	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	2	85	106	111
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	0	1	1
Legionellosis	2	12	9	14
Leptospirosis	0	1	0	0
Listeriosis	0	0	2	1
Lyme disease	3	5	3	1
Malaria	0	1	3	5
Meningitis (except aseptic)	0	2	12	16
Meningococcal Disease	0	4	6	11
Salmonella serotype Typhy (Typhoid Fever)	0	2	1	1
Salmonellosis	78	260	239	232
Shigellosis	13	58	530	22
Streptococcus pneumoniae, Drug Resistant	0	0	35	57
Toxoplasmosis	0	0	0	0
Vibriosis	4	10	3	5
West Nile Fever	0	0	0	0
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	1	3	0	0
Pertussis	0	11	16	27
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	2	25	24	43
Hepatitis				
Hepatitis A	7	17	15	14
Hepatitis B (Acute)	2	8	5	8
Lead				
Lead Poisoning	0	29	30	50

*Data is provisional at the county level and is subject to edit checks by state and federal agencies.

** Data on tuberculosis are provisional at the county level.