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Texas Preventable Disease

NEWS

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CIGUATERA INTOXICATION FROM TEXAS GULF COAST FISH

A Texas family of three became ill following the ingestion of barracuda which were caught in the vicinity of an oil rig approximately 30 miles southeast of Matagorda. The family presented with classical symptoms of ciguatera intoxication. Portions of the fish tested positive for the presence of ciguatoxin. This is the first time that the toxin has been identified in fish off the Texas coast.

Ciguatera is a variety of food poisoning associated with the ingestion of contaminated fish. The condition exists in a broad, circumglobal belt extending from 35 degrees north to 35 degrees south latitude and is endemic throughout most of the Caribbean and Indo-Pacific islands. It is a major public health and economic problem in the Pacific. Most cases in the United States are reported from Hawaii and Florida. These cases are the first Texas cases reported to the Texas Department of Health or to the Centers for Disease Control.

The agent responsible for ciguatera poisoning is a lipid-soluble, heat-resistant, acid-stable toxin known as ciguatoxin. The toxin is produced by a single-celled, free-swimming, marine dinoflagellate of the species *Gambierdiscus toxicus*. The dinoflagellate attaches to marine algae and is passed up the food chain through small herbivorous fish to large carnivorous fish to larger predatory fish and finally to humans. Only humans appear to be affected by the toxin.

The disease is characterized by a rather distinctive complex of gastrointestinal, cardiovascular, and neurological symptoms. The onset is usually one to six hours after ingestion of the toxic fish, but may be delayed for up to 30 hours. Gastrointestinal symptoms of abdominal cramps, nausea, vomiting, and diarrhea tend to occur first. There may be hypotension or bradycardia. The neurological symptoms include numbness, generalized weakness, paresthesias of the perioral region, and intraoral and dental pain. Paresthesias and dysesthesias later involve the extremities. Classically, there is a reversal of peripheral temperature sense where cold feels hot and vice versa. In addition, there can be a pruritis which is migratory in nature. The return of pruritis with alcohol ingestion is considered pathognomonic of this condition. The neurological symptoms may persist for weeks or even months or years in protracted cases.

Treatment is symptomatic. There is no antidote for the toxin. There have been case reports of treatment with amitriptyline and with tocainide, but no large, controlled studies have been undertaken.

There is no simple method for determining the presence of the toxin. A field test is under development in Hawaii. Tainted fish cannot be identified by inspection, taste, texture, or smell. The toxin is not inactivated by cooking, freezing, drying, salting, smoking, or marinating the affected fish. Unusually large fishes that are exposed to the dinoflagellate tend to accumulate more toxin than smaller ones.

A wide variety of fish have been implicated in outbreaks of ciguatera intoxication. In the Caribbean and off the coast of Florida, fish that have been most often implicated include groupers, snappers, kingfish, amberjack, dolphin, and barracuda. This observation may be due to consumption patterns or the variable existence of *G. toxicus* in tropical or subtropical reefs.

The exact reasons why the ingested barracuda contained ciguatera are not clear. While no systematic survey for the presence of the dinoflagellate or the toxin has been conducted, there is no evidence of significant public health threat. The distribution of *G. toxicus* in the Gulf is poorly understood but may be related to new outgrowths of soft corals or to ecological disturbances in tropical or subtropical reefs. It is unclear how one fish may be unsafe to eat and another of the same type and from the same area could be wholesome and safe.

Physicians should be alert to patients presenting with the symptoms described above and should consider ciguatera intoxication in the differential diagnosis. Further information is available from Texas Poison Control Centers (1-800-392-8548, 1-800-441-0040) or from references listed below.

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INFLUENZA B ALERT*

Sporadic infections with influenza B have been detected in Harris County. The first isolate was recovered from a 5-year-old boy from Galena Park who became ill on October 11, 1988. He had cough, sore throat and a temperature of 100 F when seen by his family physician on October 13. His 12-year-old brother was seen on October 19 with a mild bronchitis, but his virus culture is negative. A second positive culture for influenza B was obtained from a 6-year-old boy who developed a temperature of 102 F on October 27. He was seen by his pediatrician on that day and again November 2 in the Memorial City area. Neither child had traveled outside Houston or had any unusual contacts immediately preceding their illnesses. (The second child had visited his grandmother on October 17; she had just returned from Europe with a fever and cough. However, this interval of 10 days is outside the generally accepted incubation period of 1 to 3 days.) It appears that influenza B has "seeded" Harris County, but no increase in illnesses resulting in visits to surveillance sites has been detected. The number of visits has remained constant during the past six weeks.

The influenza B viruses will be shipped to the Centers for Disease Control in Atlanta for further antigenic analysis. A few late influenza B isolates were detected in Arizona last summer, but these isolates from Harris County are the first in the US for this season. **Influenza B is the most likely epidemic virus for this winter.** Usually influenza virus activity does not gain momentum until after the Christmas holidays, but occasionally (1978-79, 1980-81, and 1986-87) the peak has come in December. All of the previous early epidemics involved influenza A (H1N1) viruses. In the past influenza B has peaked as late as the second week of March.

*Adapted from: Influenza Research Center, Baylor College of Medicine. *Acute Respiratory Disease Update* 1988; 14(21, 22), November 15, 1988.

PDN Editorial Note: To decrease morbidity and mortality due to influenza, influenza vaccine should be considered for high-risk patients, their household contacts, and health care providers according to ACIP guidelines. (PDN, Vol. 48, No. 31, August 6, 1988; or CDC. *MMWR* 1988;37(23): 361-4, 369-73). Amantadine hydrochloride is not effective against influenza B.

MONTHLY SUMMARY OF REPORTABLE DISEASES IN TEXAS

(Counties listed below reflect only those with populations of 100,000 or more, based on 1987 population estimates.)

Cumulative through: October, 1988

County	Amebiasis	Campylo- bacteri- osis	Chickenpox	Enceph- litis	H. influenzae Infections	Hepatitis A	Hepatitis B	Hepatitis NA-NB	Influenza	Measles	Meningo- coccal Infections	Aseptic Meningitis	Mumps	Pertussis	Rubella	Salmonella	Shigella
BEXAR	7	74	754	3	37	137	73	5	2096	1	5	41	0	7	0	100	198
BRAZORIA	1	2	11	0	4	5	7	0	14	0	1	2	4	1	0	9	5
CAMERON	85	3	392	0	9	50	10	1	2671	0	0	2	15	0	0	28	40
COLLIN	0	3	335	1	5	12	13	2	9567	0	0	4	2	1	0	11	6
DALLAS	21	64	2596	3	121	267	171	23	14056	2	15	88	22	10	3	178	191
DENTON	1	8	174	1	10	19	8	2	967	0	1	6	0	0	0	32	3
EL PASO	2	32	972	0	14	190	63	5	104	0	2	2	6	0	0	69	149
PORT BEND	0	9	20	0	7	8	7	0	121	2	0	7	1	1	0	23	24
GALVESTON	1	15	159	0	5	13	27	0	1235	0	2	13	2	0	0	24	29
HARRIS	8	131	3725	7	98	180	100	21	15615	0	5	136	49	7	0	291	254
HIDALGO	6	3	186	0	2	42	2	0	11	1	0	4	4	0	0	27	45
JEFFERSON	0	5	236	1	3	6	14	0	1153	0	0	2	14	1	0	25	8
LUBBOCK	2	11	95	5	7	30	18	1	2166	0	2	15	4	0	1	19	27
MCLENNAN	1	0	245	0	10	112	21	4	374	0	0	2	3	0	0	10	17
MONTGOMERY	2	5	239	1	28	30	18	5	393	0	0	4	0	3	0	23	7
MUEBES	1	7	513	0	7	12	27	0	8254	0	0	3	0	0	0	70	30
TARRANT	1	55	1491	4	62	129	212	19	3623	1	9	52	14	10	0	56	63
TRAVIS	17	67	25	0	31	41	42	6	111	0	3	25	6	7	0	82	722
All Other Counties	45	102	5109	22	183	650	410	26	28368	1	33	118	42	50	2	487	575
Cumulative TX 1988	201	596	17277	48	643	1933	1243	120	90899	8	78	526	188	98	6	1574	2393
Cumulative TX 1987	251	687	25683	109	553	1603	1263	139	53466	452	103	700	285	97	5	2443	1806

1988 CUMULATIVE TOTALS FOR OTHER REPORTABLE DISEASES:

Acute Occ. Pesticide Poisoning	9	Coccidioidomycosis	42	Histoplasmosis	57	Psittacosis	2	Toxic Shock Syndrom	17
Anthrax	0	Dengue	0	Legionellosis	0	Q Fever	0	Trichinosis	0
Asbestosis *	0	Diphtheria	0	Leptospirosis	0	Rabies	0	Tuberculosis	1487
Botulism	2	Elevated Blood Lead Levels	661	Listeria Infections	41	Reye Syndrome	3	Tularemia	3
Brucellosis	11	Gonorrhea	36046	Lyme Disease	10	Rocky Mt Spotted Fever	15	Typhoid	19
Chlamydia trachomatis	10570	Hansen's Disease	29	Malaria	52	Silicosis *	0	Typhus, Murine	10
Cholera	0	Hepatitis D (Delta Agent)	0	Plague	0	Syphilis (P&S)	2471	Vibrio Infect.	25
		Hepatitis type unspecified	437	Poliomyelitis	0	Tetanus	3	Yellow Fever	0

* Blood lead level >40ug/dl in persons 15 years of age or older; summarized by date of blood lead test.

TEXAS DEPARTMENT OF HEALTH
 TEXAS AIDS CASES: WEEKLY SURVEILLANCE REPORT
 Case Count by Residence of Onset and Year of Diagnosis
 November 18, 1988

COUNTY *	1980-1985		1986		1987		1988		CUMULATIVE	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Bell	3	3	4	0	2	1	2	1	11	5
Bexar	53	49	55	45	113	68	124	23	345	185
Bowie	1	1	1	1	6	3	2	0	10	5
Brazoria	8	8	9	5	8	2	9	1	34	16
Brazos	10	10	5	3	4	4	1	1	20	18
Dallas	248	237	302	232	472	259	325	102	1347	830
Denton	2	2	5	3	16	9	2	1	25	15
Ector	1	1	4	3	4	2	5	0	14	6
El Paso	5	5	9	6	18	7	10	2	42	20
Fort Bend	10	10	10	6	15	7	4	1	39	24
Galveston	11	10	16	12	22	6	12	2	61	30
Gregg	2	2	3	2	4	3	1	1	10	8
Harris	605	544	615	487	759	377	421	102	2400	1510
Hays	3	3	4	3	2	1	1	0	10	7
Hidalgo	6	6	0	0	4	2	0	0	10	8

COUNTY	1980-1985		1986		1987		1988		Cumulative	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Jefferson	7	6	8	2	19	9	14	3	48	20
Lubbock	4	4	5	3	9	7	5	1	23	15
McLennan	2	2	6	4	5	2	3	1	16	9
Montgomery	5	5	3	2	9	6	6	2	23	15
Nueces	6	4	11	7	20	7	11	1	48	19
Orange	3	3	4	2	4	2	2	1	13	8
Potter	1	0	2	1	5	2	5	3	13	6
Smith	3	3	3	1	3	1	1	0	10	5
Tarrant	45	37	43	27	113	46	52	12	253	122
Travis	58	50	45	24	92	25	56	7	251	106
Walker **	9	9	19	8	18	7	15	3	61	27
Webb	1	1	4	3	5	1	4	1	14	6
Wichita	1	1	2	1	6	3	7	1	16	6
All Others	46	42	63	41	115	52	71	16	295	151

STATEWIDE	1980-1985		1986		1987		1988		CUMULATIVE	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
	1159	1058	1260	934	1872	921	1171	289	5462	3202
CFR %	CFR%	91	CFR%	74	CFR%	49	CFR%	25	CFR%	59

* COUNTIES LISTED INDIVIDUALLY ARE THOSE WITH A CUMULATIVE TOTAL OF 10+
 ** 53 CASES WERE DIAGNOSED WHILE TEXAS DEPARTMENT OF CORRECTION INMATES

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