

ANNUAL SUMMARY

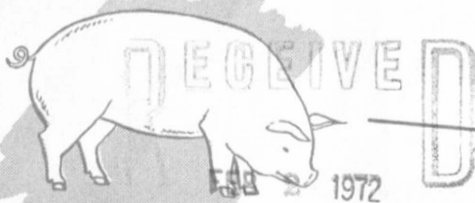
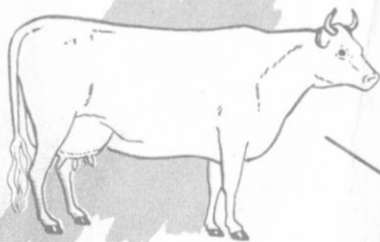
LISTERIOSIS, 1970

CENTER FOR DISEASE CONTROL

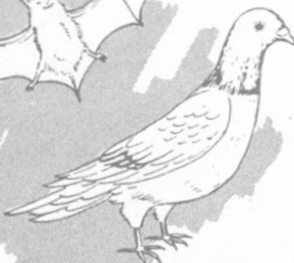
JANUARY 1972

ZOONOSES

SURVEILLANCE



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LISTERIOSIS

HUMAN LISTERIOSIS
IN THE UNITED STATES

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

PREFACE

Information summarized in this report is intended primarily for those responsible for disease control activities. Anyone desiring to quote this report should verify the data at its original source for accuracy and interpretation.

Contributions to the Surveillance Report are most welcome. Please address to:

Center for Disease Control
Attn: Office of Veterinary Public Health Services
Epidemiology Program
Atlanta, Georgia 30333

Center for Disease Control David J. Sencer, M.D., Director

Epidemiology Program Philip S. Brachman, M.D., Director

Office of Veterinary Public Health Services Richard L. Parker, D.V.M., Chief
Reynoldson B. Zehmer, D.V.M.

Laboratory Division U. Pentti Kokko, M.D., Director

Bacteriology Section Albert Balows, Ph.D., Chief
Robert E. Weaver, M.D., Ph.D.
Wallis Jones, Ph.D.

HUMAN LISTERIOSIS IN THE UNITED STATES

I. INTRODUCTION

In 1970, 113 cases of listeriosis were reported to the Center for Disease Control by 26 states. However, listeriosis is not one of the diseases reported by agreement between State and Territorial Epidemiologists and CDC. Information on the cases summarized in this report was obtained from several sources, including State Health Departments that elect to report cases of listeriosis to the CDC, and by isolates of Listeria monocytogenes received for confirmation and serotyping by the Bacterial Immunology Unit, Laboratory Division, CDC. In addition, the various State Health Department laboratories were contacted and asked to report the number of isolates of L. monocytogenes from humans obtained by that laboratory during 1970.

L. monocytogenes was isolated from all persons included in this report, but information regarding the presence, nature, and severity of symptoms and signs is lacking in some cases.

II. DISTRIBUTION BY STATES (Table 1)

The greatest number of cases (17) were reported from New York, followed by Louisiana with 14, and California with 12. No cases have been reported from 13 states since collection of data began in 1967.

III. TEMPORAL DISTRIBUTION (Figure 1)

The 42 cases for which month of onset was listed occurred throughout the year. The largest number of cases reported by month were seven in June and seven in July. The 14 cases that occurred in these 2 months accounted for 33 percent of the 42 cases for which month of onset was given.

IV. AGE AND SEX DISTRIBUTION (Table 2)

The highest attack rate was in persons under 1 year of age (infants), 71.5 per 10,000,000 population. Of the 25 cases in infants, 20 were in infants less than 1 month of age. The attack rate declined to a low of 0.5 persons per 10,000,000 population for the 5 to 14 year age group, and then increased gradually with age (peak of 6.5 per 10,000,000 population for 55 to 64 year age group). The attack rate was at least twice as high for those over 55 as for those between 5 and 55 years of age.

V. CLINICAL MANIFESTATIONS (Table 3)

Information regarding clinical manifestations was provided on 74 of the 113 patients from whom isolates were received. If the source of the culture was cerebrospinal fluid, the patient was considered to have had meningitis. Fifty-five of the 74 patients (74.3 percent) experienced meningitis. The remainder were reported to have had a variety of manifestations including septicemia, endocarditis, and perinatal vaginal infection. Blood specimens from 27 additional persons on whom no clinical information was provided yielded L. monocytogenes on culture.

VI. UNDERLYING ILLNESSES (Table 4)

Of the persons on whom information was obtained regarding the status of health prior to the onset of listeriosis, the majority of cases were in infants in the first 4 weeks of life or in persons who had a serious underlying illness. No underlying illnesses were reported in the 20 neonatal patients from whom listeria isolates were received. However, listeriosis in persons older than 1 month was strikingly associated with underlying illness. Of the 93 cases in persons not known to be neonates, 27 occurred in persons reported to have at least one underlying illness. Three persons were reported to be in good health prior to the onset of listeriosis, and no information was provided on the remaining 63.

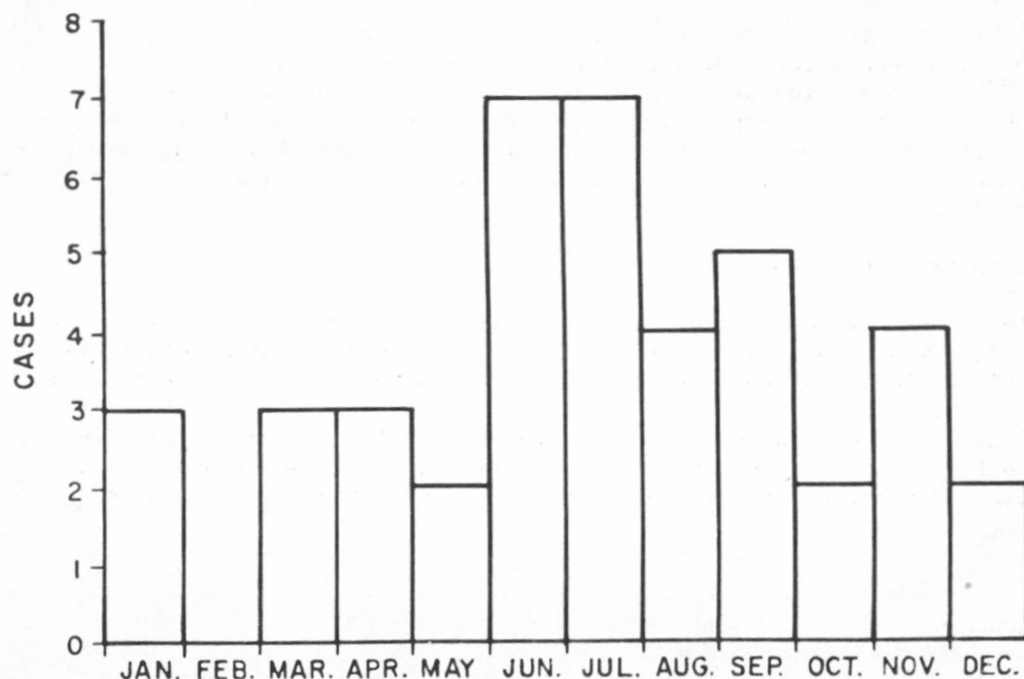
Although reports of therapy for associated illnesses were scant, eight persons were reported to have received steroids, two persons cytotoxic agents, and one person radiation therapy prior to or at the time of becoming ill with listeriosis.

VII. BACTERIOLOGY (Table 5, 6)

Of the 113 isolates of L. monocytogenes from 90 patients, 53 were from blood and 48 from cerebrospinal fluid. Cultures from 13 patients yielded L. monocytogenes from both blood and cerebrospinal fluid. L. monocytogenes was isolated from vagina, vaginal lochia, or placenta in five cases.

Serotype 4b was isolated most frequently, accounting for 35 percent of the 79 isolates typed. The second most frequent serotype identified was 1b which accounted for an additional 32 percent.

Figure 1 HUMAN LISTERIOSIS, BY MONTH OF ONSET*, UNITED STATES, 1970



* MONTH OF ONSET WAS KNOWN FOR 42 CASES.

TABLE 1
HUMAN LISTERIOSIS, UNITED STATES, 1967-1970

STATE	1967	1968	1969	1970*	TOTAL
Alabama	2	1	2	0	5
Alaska	1	0	0	0	1
Arizona	2	0	0	0	2
Arkansas	1	2	0	1	4
California	11	8	0	12	31
Colorado	2	2	3	2	9
Connecticut	0	2	0	3	5
Delaware	0	0	2	0	2
District of Columbia	0	0	1	0	1
Florida	0	3	10	7	20
Georgia	2	4	4	5	15
Hawaii	0	1	1	0	2
Idaho	0	0	0	0	0
Illinois	3	14	3	4	24
Indiana	0	3	0	3	6
Iowa	0	1	0	0	1
Kansas	1	0	0	1	2
Kentucky	1	2	0	2	5
Louisiana	4	3	6	14	27
Maine	0	1	0	0	1
Maryland	0	1	0	0	1
Massachusetts	1	7	3	2	13
Michigan	0	8	8	5	21
Minnesota	1	5	5	6	17
Mississippi	0	0	0	0	0
Missouri	0	2	0	1	3
Montana	0	0	0	0	0
Nebraska	0	0	0	0	0
Nevada	0	0	0	0	0
New Hampshire	0	0	0	0	0
New Jersey	1	3	3	5	12
New Mexico	0	0	0	0	0
New York	4	4	11	17	36
North Carolina	4	4	1	0	9
North Dakota	1	0	0	1	2
Ohio	2	5	2	3	12
Oklahoma	0	0	0	1	1
Oregon	1	1	2	2	6
Pennsylvania	6	4	3	2	15
Puerto	0	0	4	0	4
Rhode Island	0	0	0	0	0
South Carolina	1	0	0	0	1
South Dakota	0	0	0	0	0
Tennessee	1	2	0	0	3
Texas	5	10	10	6	31
Utah	0	0	0	0	0
Vermont	0	0	0	0	0
Virginia	0	0	0	3	3
Washington	0	2	2	2	6
West Virginia	0	0	0	0	0
Wisconsin	2	0	3	3	8
Wyoming	0	0	0	0	0
Totals	60	105	90*	113	368*

*Provisional Data

•Includes 1 case where the state was unknown.

Source: Case information submitted to NCDC.

TABLE 2 PERSONS FROM WHOM LISTERIA MONOCYTOGENES WAS ISOLATED, BY AGE AND SEX - UNITED STATES, 1970

Age Group	Male	Female	Sex Unknown	Total	Persons/ 10,000,000 Population
< 1 year	10	11*	4	25	71.5
1-4 years	2	3	-	5	3.5
5-14 years	-	2	-	2	0.5
15-24 years	1	2	-	3	0.9
25-34 years	2	2	-	4	1.6
35-44 years	5	1	-	6	2.6
45-54 years	4	2	-	6	2.6
55-64 years	7	5	-	12	6.5
65-74 years	6	2	-	8	6.4
75 years and over	3	1	-	4	5.3
Age Unknown	7	7	24	38	-
TOTAL	47	38	28	113	5.6

* Includes one stillborn infant

POPULATION DATA

Age Less than 5 years: Population Estimates and Projections, Series P-25, No. 441, March 19, 1970, Bureau of the Census, U. S. Dept. of Commerce

Age 5 years and over: 1970 Census of Population, PC (V2)-1 Series, Bureau of the Census, U. S. Dept. of Commerce

TABLE 3 CLINICAL MANIFESTATIONS IN 74 PATIENTS FROM WHOM
LISTERIA MONOCYTOGENES WAS ISOLATED*

<u>Manifestation</u>	<u>No. of Patients</u>
Meningitis	54
Vaginal Infection	5
Endocarditis	4
Septicemia	3
Peritonitis	2
Abortion	2
Pneumonia	2
Premature Labor	1
Cholecystitis	1
Conjunctivitis	1
Pharyngitis	1

- * No information available on 39 patients.
Two patients had more than one clinical manifestation.

TABLE 4 UNDERLYING ILLNESSES REPORTED IN 31* PERSONS FROM WHOM
LISTERIA MONOCYTOGENES WAS ISOLATED, UNITED STATES, 1970**

Malignancy	12
Lymphosarcoma (including Hodgkins)	5
Leukemias	4
Multiple Myeloma	1
Breast Carcinoma	1
Metastatic Carcinoma	1
Heart Disease	5
Rheumatic	3
Congenital	1
Post-operative valve replacement	1
Cirrhosis or Alcohol Abuse	6
Diabetes Mellitus	3
Sarcoidosis	1
Dermatomyositis	1
Systemic Lupus Erythematosus	1
Renal Transplant	1
Tuberculosis	1
Congenital Biliary Atresia	1
Pernicious Anemia	1

- * Multiple underlying illnesses were reported in some patients.
** Not included are 20 neonates in whom no underlying illnesses were reported and 62 persons on whom no information was available.

TABLE 5 HUMAN LISTERIOSIS CASES BY TYPE OF MATERIAL CULTURED,
UNITED STATES, 1970*

Material Cultured	No. of Cases	Percent of Total
Blood	53	47.7
CSF	48	43.2
Vagina or Placenta	5	4.5
Ascitic Fluid	2	1.8
Other**	3	2.7
TOTAL***	111	99.9

* Provisional Data

** Includes isolations from gall bladder, throat, and brain tissue.

*** 97 cases where source of culture was noted of 113 cases reported;
multiple isolations were made from 14 patients.

Source: Case information submitted to CDC

TABLE 6 HUMAN LISTERIOSIS CASES BY INFECTING SEROTYPE, UNITED STATES, 1970*

Infecting Serotype	No. of Cases	Percent of Total
1**	5	6.3
1a	12	15.2
1b	25	31.6
2	1	1.3
3b	2	2.5
4**	6	7.6
4b	28	35.4
TOTAL	79	99.9

* Provisional Data

** Reported by states, subtypes not indicated.

Source: Case information submitted to CDC, isolates from 67 of the
patients were serotyped by Bacterial Immunology Unit,
Laboratory Division, CDC.

STATE EPIDEMIOLOGISTS STATE PUBLIC HEALTH VETERINARIANS

Key to all disease surveillance activities are the State Epidemiologists, who are responsible for collecting, interpreting, and transmitting data and epidemiological information from their individual States. Their contributions to this report are gratefully acknowledged. In addition, valuable contributions to zoonoses surveillance reports are made by State Public Health Veterinarians.

STATE	STATE EPIDEMIOLOGISTS	STATE PUBLIC HEALTH VETERINARIAN
Alabama	Frederick S. Wolf, M.D.	
Alaska	Donald K. Freedman, M.D.	
Arizona	*Philip M. Hotchkiss, D.V.M.	*Philip M. Hotchkiss, D.V.M.
Arkansas	John A. Harrel, Jr., M.D.	Harvie R. Ellis, D.V.M.
California	James Chin, M.D.	George L. Humphrey, D.V.M.
Colorado	C.S. Molloyhan, M.D.	Martin D. Baum, D.V.M.
Connecticut	James C. Hart, M.D.	
Delaware	Floyd I. Hudson, M.D.	
District of Columbia	William E. Long, M.D.	George D. Coffee, D.V.M.
Florida	Ralph B. Hogan, M.D.	James B. Nichols, D.V.M.
Georgia	John E. McCroan, Ph.D.	David Dreesen, D.V.M.
Hawaii	Harry L. Boyett, M.D.	John M. Gooch, D.V.M.
Idaho	John A. Mather, M.D.	Michael Daley, D.V.M.
Illinois	Richard H. Suhs, M.D.	Paul R. Schnurrenberger, D.V.M.
Indiana	Charles L. Barrett, M.D.	I. Dale Richardson, D.V.M.
Iowa	Arnold M. Reeve, M.D.	S.L. Hendricks, D.V.M.
Kansas	Don E. Wilcox, M.D.	George A. Mullen, D.V.M.
Kentucky	Calixto Hernandez, M.D.	Joseph W. Skaggs, D.V.M.
Louisiana	*Charles T. Caraway, D.V.M.	*Charles T. Caraway, D.V.M.
Maine	O. Thomas Feagin, M.D. (Acting)	
Maryland	John D. Stafford, M.D. (Acting)	Kenneth L. Crawford, D.V.M.
Massachusetts	Nicholas J. Fiumara, M.D.	Francis Fitzgerald, D.V.M.
Michigan	Norman S. Hayner, M.D.	Donald B. Coohon, D.V.M.
Minnesota	D.S. Fleming, M.D.	
Mississippi	Durward L. Blakey, M.D.	Edmund R. Price, D.V.M.
Missouri	H. Denny Donnell, Jr., M.D.	
Montana	Mary E. Soules, M.D.	
Nebraska	Henry D. Smith, M.D.	
Nevada	William M. Edwards, M.D.	
New Hampshire	Vladas Kaupas, M.D.	
New Jersey	Ronald Altman, M.D.	Oscar Sussman, D.V.M.
New Mexico	Nancy C. McCaig, M.D.	
New York State	Alan R. Hinman, M.D.	Melvin K. Abelseth, D.V.M.
New York City	Howard B. Shookoff, M.D.	Jeroham Asedo, D.V.M.
North Carolina	Martin P. Hines, D.V.M.	John I. Freeman, D.V.M.
North Dakota	Kenneth Mosser	
Ohio	John H. Ackerman, M.D.	Jack H. Russell, D.V.M.
Oklahoma	Stanley Ferguson, Ph.D.	
Oregon	Samuel Osgood, M.D.	Monroe Holmes, D.V.M.
Pennsylvania	W.D. Schrack, Jr., M.D.	Ernest J. Witte, V.M.D.
Puerto Rico	Luis Mainardi, M.D.	Eduardo Toro, D.V.M.
Rhode Island	David L. Starbuck, M.D. (Acting)	Thomas Greenan, Jr., D.V.M.
South Carolina	Donald H. Robinson, M.D.	
South Dakota	Robert H. Hayes, M.D.	
Tennessee	Robert H. Hutcheson, Jr., M.D.	Luther E. Fredrickson, D.V.M.
Texas	M.S. Dickerson, M.D.	A.B. Rich, D.V.M.
Utah	Taira Fukushima, M.D.	F. James Schoenfeld, D.V.M.
Vermont	Robert B. Aiken, M.D.	D. Pomar, D.V.M.
Virginia	H.E. Gillespie, M.D.	
Washington	Byron J. Francis, M.D.	
West Virginia	N.H. Dyer, M.D.	
Wisconsin	H. Grant Skinner, M.D.	Wayne H. Thompson, D.V.M.
Wyoming	Herman S. Parish, M.D.	

*Dual assignment