no instances could the epithelium be found to be ciliated. Diagnosis: Retroperitoneal cyst."

SUMMARY OF DIAGNOSTIC POINTS.

To summarize some of the diagnostic points:

A cyst developing from Wolffian body remains develops back of the retroperitoneum and may push the stomach in any direction or may develop behind and push forward the aorta and vena cava.

True cysts of the pancreas would not be likely to do this on account of its relations.

The greater the amount of substance secreted and the greater the amount and the number of products from the displaced ectodermal or mesodermal cells the larger the cyst.

Lateral mobility has been considered diagnostic of mesenteric cysts, but mobility is also characteristic of most tumors of the upper abdomen, which do not develop directly from a glandular organ.

"A ferment which converted starch into sugar has been found absent from undoubted pancreatic cysts,"²² "and has been found in abdominal cysts not connected with the pancreas."²³

Slowly developing obstruction to the pancreatic duct or from interstitial changes may cause cystic degeneration of that organ.

Pancreatic cysts are finely fixed and do not attain large size.²⁴

It may be considered that there have been, under the head of pancreatic cysts, three forms described: 1. The small, true, firmly fixed cyst of the pancreas, which is accompanied by glandular destruction, and rarely presents as a tumor in the living. 2. The thin-walled, friable pseudo-cysts which are full of pigmented material. Efforts to remove these have been generally unsuccessful, so they have been treated by drainage. They present below stomach, with areas of tympany above and below. 3. A thin, fibrous-walled cyst of large size, containing, as a rule, cholesterol fluid; freely movable, and can be enucleated; resembles closely a parovarian cyst and develops in close relationship to the pancreas. The first are true pancreatic cysts; the second, pseudo-cysts or omental bursitis; the third are Wolffian body cysts, and stand in the same relation to the pancreas as do parovarian cysts to the ovary; or if another descriptive name is needed, these might be called parapancreatic cysts.

Aspiration should never be performed on account of danger of infection, either from puncture of some hollow viscus, or from disseminating cyst contents.

CONCLUSIONS.

The clinical picture of a cyst developing behind the peritoneum, from embryologic remains, depends on the relations it finally assumes.

Cysts from the Wolffian body are not uncommon in women.

Movable cysts presenting in the epigastrium have usually been called pancreatic, although true cysts of the pancreas are rare (especially in women) and are rarely movable.

Developing in the region of the kidney, they may be mistaken for hydronephrosis or may extend so low as to be considered ovarian.

Retroperitoneal cysts are usually benign, unaccompanied by symptoms other than those of a mechanical nature.

409 Marlborough Street.

33. Morton: Brit. Med. Jour., 1903.

34. Douglass: Trans. South. Surg. and Gyn. Soc., 1902.

TETANUS NEONATORUM.

A SECOND REPORT OF A STATISTICAL STUDY.†

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A second paper on the study of the incidence of tetanus in the United States is herewith presented. Special attention has been given to the subject of tetanus neonatorum, and the literature from 1850 to 1906 (covering reports of cases found in the "Index-Catalogue of the Library of the Surgeon-General" in Washington from 1850 to 1892, and in the *Index Medicus* from 1892 to 1906 inclusive), has furnished 1,276 cases, with a report of 31 original ones, collected by us from direct correspondence with hundreds of observers all over the

TABLE 1.—MORTALITY OF TETANUS IN CENSUS YEARS AS SHOWN BY U. S. VITAL STATISTICS.

	1870.		1880.		1890.		1900.	
	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.
Alabama	28	52	86	108	79	96	23	84
Arizona	1	8	16	25	7	15	1	11
Arkansas	4	19	11	9	29	7	38	8
California	1	1	2	6	18	9	25	2
Colorado	1	9	3	20	13	18	9	12
Connecticut	1	3	1	3	1	7	9	12
Dakota	2	6	9	10	52	58	9	12
Delaware	4	11	26	35	27	33	26	100
District of Columbia	16	27	38	60	42	62	19	65
Florida	1	1	1	1	1	1	1	1
Georgia	5	26	24	63	63	100	36	126
Idaho	4	13	17	40	10	34	11	67
Illinois	3	8	3	13	10	15	3	38
Indiana	2	2	3	9	4	9	3	26
Iowa	14	36	21	51	49	64	11	44
Kansas	374	507	149	178	208	299	106	291
Kentucky	1	2	2	2	6	6	1	9
Louisiana	14	31	15	24	36	46	16	64
Maine	2	18	7	17	6	9	3	31
Maryland	1	6	3	8	13	31	7	33
Massachusetts	1	3	3	12	7	13	2	38
Michigan	34	48	47	61	19	29	2	22
Minnesota	1	1	1	1	1	1	1	1
Mississippi	1	1	1	1	1	1	1	1
Montana	88	166	33	59	180	200	57	100
*Indian Territory	1	1	4	4	6	3	3	16
Missouri	1	1	1	1	1	1	1	1
Nebraska	1	1	1	1	1	1	1	1
Nevada	1	1	1	1	1	1	1	1
New Hampshire	6	19	16	35	68	80	38	94
New Jersey	1	1	3	3	2	2	1	1
New Mexico	58	112	14	50	99	146	57	204
New York	7	12	39	54	12	18	8	46
North Carolina	1	1	1	1	1	1	1	1
North Dakota	7	40	10	43	45	77	10	86
Ohio	1	1	1	1	1	1	1	1
Oklahoma	1	1	1	1	1	1	1	1
Oregon	9	60	21	70	35	74	21	168
Pennsylvania	1	3	3	6	2	5	2	9
Rhode Island	29	42	26	31	106	114	67	99
South Carolina	1	1	1	1	1	1	1	1
South Dakota	25	46	52	84	35	58	6	47
Tennessee	183	212	212	256	126	157	11	136
Texas	1	3	1	3	1	1	1	4
Utah	43	65	43	61	47	65	15	66
Vermont	1	1	1	1	1	1	1	1
Virginia	1	1	1	1	1	1	1	1
Washington	1	1	1	1	1	1	1	1
West Virginia	1	1	1	1	1	1	1	1
Wisconsin	1	5	6	10	12	21	7	28
Wyoming	1	1	1	1	1	1	1	1
50 Largest Cities	762	995	762	995	762	995	762	995
Total	975	1627	1716	2537	1491	2019	595	2259

† Read in the Section on Diseases of Children of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

* The figures for 1900 are furnished by the Bureau of the Census, Division of Vital Statistics, Washington, and are incomplete for the non-registration states, which are Alabama, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indian Territory, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

country, giving a total number of 1,307 cases, which form the basis of our studies and deductions.

In our first paper¹ we note the following:

A perusal of Table 3 cannot help but impress every reader with the appalling mortality of tetanus neonatorum, and herein, indeed, lies a great work in a concentrated endeavor to lessen the fearful ravages of the condition in the newborn.

The subject is discussed under various names, trismus nascentium, tetanus infantum, nine days fits, and others, but we have chosen to limit this paper to the study of tetanus neonatorum, occurring in the newborn, from infection through the umbilicus.

Table 1, which also appeared in our previous article, gives the mortality from tetanus neonatorum for the census years from 1870 to 1900, inclusive, or a total of 4,778.

The frightful mortality of this disease, resulting from carelessness and ignorance in the vast majority of cases, demands the earnest attention of the medical profession, sociologists and humanitarians.

TABLE 2.—DISTRIBUTION OF CASES REPORTED BY STATES.

Alabama	30	Massachusetts	5
Arizona	..	Michigan	34
Arkansas	3	Minnesota	5
California	8	Missouri	12
Colorado	2	Mississippi	5
Connecticut	39	Nebraska	2
Delaware	..	New York	22
District of Columbia	371	North Carolina	1
Florida	1	New Jersey	1
Georgia	6	South Carolina	3
Idaho	..	Pennsylvania	190
Illinois	138	Texas	47
Indiana	2	Tennessee	16
Iowa	1	Rhode Island	2
Kansas	1	Virginia	2
Kentucky	6	Vermont	8
Louisiana	274	Wisconsin	1
Ohio	6	All other states reported	499
Orlando	3		
Maryland	60	Total	1307

It will be noted that no state of any considerable population is exempt from tetanus neonatorum, but in some states, particularly at the south, or where there is illiteracy and a low standard of morals, it prevails most extensively.

WIDESPREAD DISTRIBUTION OF TETANUS NEONATORUM.

In a paper read before the Royal Irish Academy in 1789, Dr. Joseph Clark makes the following statement, based on his connection with the Dublin Lying-in Asylum. He says:

At the conclusion of the year 1782, of the 17,650 infants born living in the lying-in hospital of this city, 2,944 had died within the first fortnight, i. e., every sixth child. The disease in 19 cases out of 20 was tetanus neonatorum.

From the time that the wards were better ventilated by reason of Dr. Clark's observations in 1782 to the time of the preparation of his paper, 8,033 infants were born in the hospital, while only 419 had died, being about 1 to 19. In the town of Fulda, Germany, in 1802, Dr. Schneider saw six cases in fourteen days, while a midwife in the same place states that she had seen more than sixty cases in nine years.

Tetanus neonatorum has been terribly fatal in various parts of the world. For years it was endemic to the island of Heimac, Iceland, to such an extent as almost to depopulate that section. It was very fatal in the island of St. Kilda, off the coast of Scotland, up to within a few years ago, when by no other measures than simple aseptic dressing of the umbilical cord, the cases were reduced to almost *nil*. G. Miron² states that in

Bucharest, 233 children die of tetanus neonatorum every year, and in the entire district of Roumania 14,807 succumb to this disease annually. An emulsion prepared from the umbilical cords and injected into mice after the culture method of Wright, showed the presence of tetanus bacilli and spores.

OCCURRENCE OF TETANUS NEONATORUM AMONG THE NEGROES.

The unhygienic living of the negroes of the south, among whom this disease makes great ravages, is best described by Dr. Greenville Dowell.³

When called to see their children, we find their clothes wet around the hips, and often up to the armpits with urine. The child is thus presented to us, when on examination, we find the umbilical dressing not only wet with urine, but soiled likewise with feces, freely giving off an offensive, urinous, and fecal odor, combined with a gangrenous fetor, arising from the decomposing matter due to desiccation of the cord.

The same author⁴ states:

In New Orleans, in 1860, the death statistics show that tetanus neonatorum was the most fatal of all diseases except phthisis.

Hartigan⁵ quotes Grier of Mississippi on the "Negro and His Diseases" as follows:

The first form of disease which assails the negro race among us is trismus. No statistical record, I suppose, has ever been attempted, but, from my individual experiences, I am almost willing to affirm that it decimates the African race on our plantations within the first week of independent existence. I have known more than one instance in which, of the births for a year, one-half became the victims of this disease, and that despite the utmost watchfulness and care.

CAUSATION.

Former theories as to the cause of tetanus neonatorum have been entirely disproved since the demonstration of the tetanus bacillus of Nicolaier in 1884. Many subsequent experiments, which prove this disease to be specific in origin, have also been made. The theory advanced by Dr. J. Marion Sims, in 1846, that tetanus neonatorum is of centric origin, depending on pressure exerted on the medulla oblongata, by inward displacement of the occipital bones, at birth, has been entirely controverted. Moschion, who lived in the first century of the Christian era, stated that stagnant blood in the umbilical vessels sometimes produced a dangerous disease in the newborn infant, and it is supposed that he referred to tetanus infantum.

TABLE 3.—SEASONAL OCCURRENCE OF TETANUS NEONATORUM.

	No. of cases.		No. of cases.
January	12	August	8
February	10	September	14
March	24	October	9
April	5	November	9
May	6	December	7
June	11		
July	18	Total	133

SEASONABLE OCCURRENCE OF TETANUS NEONATORUM.

According to our collective investigations as set forth in Table 3, the months of March, July, September, January and June give the largest number of cases, the five months showing a total of 60 per cent. This apparent departure from the usual rule of adult tetanus may be explained by the fact that the weather the year round in the southern states is warm, and compares with the summer temperature of the northern states.

1. THE JOURNAL A. M. A., July 29, 1905.

2. *Alg. W. Med. Ztg.*, March 13, 1906, vol. li, No. 2, p. 118.

3. *Nashville Jour. Med. and Surg.*, 1863.

4. *Galveston Med. Jour.*, 1867, vol. xi, p. 595-599.

5. "Lockjaw in Infants," 1884.

AGES OF PATIENTS IN CASES OF TETANUS NEONATORUM.

That the appellation "nine days' fits" is not a misnomer is proved by Table 4, which shows the greatest number of cases to occur on or before the ninth day, corresponding to the time of the dropping off of the cord, thus leaving an open wound to favor infection; the susceptibility then rapidly decreases.

TABLE 4.—AGES OF PATIENTS IN TETANUS NEONATORUM CASES.

Age in Days.	No. of Cases.	Age in Days.	No. of Cases.
Less than 1 day.....	..	..	..
1	7	8	22
2	8	9	12
3	19	10	11
4	10	11	3
5	19	12	7
6	22	13	1
7	21	14	5
Nine days or less.....	146	cases.	
Less than 15 days.....	173	cases.	
Between 9 and 15 days.....	27	cases.	
Between 6 and 9 days.....	77	cases.	
Less than 6 days.....	72	cases.	
Over 15 days.....	23	cases.	

Table 5 indicates at a glance in a general way the range by days of the period of incubation and its relation to the mortality rate of this disease, which is 57.2 per cent.

TABLE 5.—INCUBATION TO MORTALITY.

Incubation, days.	Cases.	Deaths.	Recoveries.
One day or less.....	18	7	11
2	11	9	2
3	18	13	5
4	14	12	2
5	17	15	2
6	30	18	12
7	24	16	8
8	24	12	12
9	10	2	8
10	11	4	7
11	3	2	1
12	3	1	2
13	1	0	1
14	5	0	5
15	0	0	0
Over 15 days.....	12	4	8
Total cases	201	115	86

INFECTIOUSNESS.

Some local epidemics prove its terrible infectiousness. In 1901 there were 32 deaths from tetanus in Baltimore. Of these, 25 were of tetanus neonatorum in children under twenty days old, all of them in the hands of midwives; 12 of them were within a few blocks of each other and all from one midwife. In Maryland, in 1902, there were 58 deaths from tetanus, of which 33 were of tetanus neonatorum.

Kleiner⁶ reports a case of tetanus neonatorum in a twin, which was immediately isolated from the mother and the other child. In four days the child was brought back to the mother, who insisted on having it. Five days later the second child developed tetanus; both eventually recovered.

REPORTS OF OCCURRENCES OF TETANUS NEONATORUM, REPORTED BY PERSONAL CORRESPONDENCE WITH DOCTORS AND BOARDS OF HEALTH, AND CULLED FROM THE LITERATURE.

Wilhite,⁷ of Pennsylvania records three cases of tetanus neonatorum occurring in triplets, two of whom died and one recovered. O. A. Fleisburg⁸ reports the case of a Jewish boy, circumcised on the eighth day, who developed tetanus neonatorum three days later, with suppurating wound. The rite had been performed in the usual manner; he died on the thirteenth day of life and the fifth day of the disease.

6. Gross Medical College Bulletin, 1895.

7. Am. Jour. Med. Sciences, 1875, vol. lxi, p. 375.

8. Northwestern Larcet, Feb. 15, 1889, p. 44.

In Vermont, from 1900 to 1904, 34 persons died from tetanus, of which 7 occurred in infants. In Santa Clara County, Cal., 7 deaths from tetanus occurred between 1900 and 1905, inclusive, of which one was in an infant. R. B. Gilbert⁹ reports the following deaths from tetanus neonatorum:

New Orleans, 249 cases, 1 year of age.

Cuba, 369 cases, 2 years of age.

Jamaica, 25 per cent. of the mortality in the negro population every year from tetanus neonatorum.

In Philadelphia, during the ten years ending with 1881, there were 311 deaths from traumatic tetanus, and 166 of tetanus neonatorum, of which 81 were males and 85 females. From 1898 to 1902, inclusive, there were 123 deaths from tetanus in Michigan, of which 32 were of tetanus neonatorum. In Springfield, Ill., in 1902, there were 144 deaths from tetanus, of which 33 were under one year of age. In 1903 there were 125 deaths from tetanus; of these 60 were under one year of age. In 1904 there were 136 cases, of which 37 were of tetanus neonatorum.

In Maine, in 1903, there were three deaths from tetanus neonatorum. The superintendent of vital statistics of Connecticut writes us under date of Sept. 15, 1905, as follows:

Its occurrence in the recent five years has averaged only 7.6 per cent. of the cases annually, and they were scattered through 168 towns of the state, showing no preference for any particular locality. In 104,676 births in the five years (1900-05), only 38 deaths were ascribed to that cause.

Dr. William C. Woodward, health officer of the District of Columbia, Washington, D. C., writes:

I beg to submit the following statement relative to the mortality in the District of Columbia, from tetanus neonatorum since 1890:

Year.	White.	Col.	Total.	Year.	White.	Col.	Total.
1890	17	31	48	1897....	8	12	20
1891	8	30	38	1898....	14	13	27
1892	16	33	47	1899....	5	9	14
1893	15	20	35	1900....	11	10	21
1894	5	17	22	1901....	12	7	19
1895	11	12	23	1902....	7	9	16
1896	8	9	17	1904....	3	4	7

Total cases, white, 145; colored, 226; all, 371.

In considering the prevalence of this disease among the white people as compared with its prevalence among colored people, you may fairly consider that the white population in the District of Columbia is twice that of the colored population. It may be of interest also to know that no new midwives have been licensed in this District since 1896, except after examination.

INTERESTING POINTS IN CONNECTION WITH ORIGINAL CASES REPORTED.

In Case 1 delivery was by midwife. Doctor was not called until seventh day.

In connection with Case 3 Dr. Louis Fischer, New York, says he has seen other cases in the practice of midwives and careless physicians who disregarded asepsis.

Case 4, reported by Dr. Bullard, was one with umbilical infection seen years ago. Recovery. No data appended.

In Case 5 dry, high temperature, 110 F., was supposed cause, in an apparently extra healthy child under good conditions. Parents were well kept; there were other children; confinements had been easy.

In Case 6 the nurse previously engaged could not be gotten, and an old negress was secured. She was untidy and lived over

9. American Practitioner and News, vol. xxxvi, 1903, p. 288.

TABLE 7.—ORIGINAL CASES REPORTED TO AUTHORS.

Case No.	Reporter.	Year.	Month.	Sex and Race.	Age.	Infection Atrium.	Incubation. Days.	Duration. Days.	Mortality.	Serum Treatment.	Local and General Treatment.
1	J. Henry Barbat, San Francisco.	1892	...	...	7 d.	Umbilical Cord.	7 d.	2 d.	1		
2	C. C. Gratiot, Shullsburg, Wis.	1903	Nov.	F. W.	9 mos.	?	13 d.	3 d.	1	10 c.c. every six hours.	Ear kept thoroughly aseptic with nitrate of silver.
3	Louis Fischer, New York.	1905	Sept.	F. W.	2 d.	Umbilical Cord.	?	5 d.	1	5 c.c. on third day.	Hot bichlorid to umbilicus. Eliminative treatment.
*4	J. W. Bullard, Pawnee, City, Neb.	1905	July.	F. W.	...	Umbilical Cord.	1 d.	few hours.	1	...	Ice water to head; cold baths. Liq. ammon., amyl., nit. inhalations.
5	W. T. Freeman, Needles, Cal.	1893	...	M. W.	New Born.	Umbilicus. . . .	7 d.	3 d.	1	...	H ₂ O ₂ cleansing. Potassium brom. and chloral with chloroform inhalations.
6	Samuel E. Woody, Louisville, Ky.	1905	July.	M. C.	10 d.	?	9 d.	6 d.	1	10 c.c. on third day.	Bromid and calomel in milk.
7	J. P. Furniss, Selma, Ala.	1897	...	F. C.	14 d.		not stated.	6 d.	1		
8	G. B. Forcue, Waco, Texas.	1898	...	M. W.	8 d.	Umbilical Cord.	few days.	10 d.	0	Started tenth day. —10 c.c.	Cord injected with 1-1000 bichlorid and boric acid used; sod., brom. and chloral also used.
9	B. W. Goldsborough, Cambridge, Mass.	1895	Jan.	F. W.	7 d.	Cord.	?	2 d.	1	...	Nitrate silver and tinct. iodin. Morph., chloral and bromid per rectum; chloroform by inhalation.
10	E. T. Brady, Abingdon, Va.	1901	Sept.	M. W.	10 d.	Umbilicus. . . .	8 d.	2 d.	1	mexviii - day of onset.	Chloral.
11	F. C. Goldsborough, Baltimore.	1887	...	M. W.	7 d.	Umbilicus. . . .	...	few days.	1	...	Antiseptic dressings, bromids and chloral.
12	George B. Kalb, Erie, Penn.	1897	...	M. W.	5 d.	Umbilicus. . . .	5 d.	2 d.	1	...	Antiseptics, bromids and chloral.
13	J. W. Brandon, Clarks-ville, Tenn.	1899	...	F. W.	3 d.	Umbilicus. . . .	d.	2 d.	1	...	H ₂ O ₂ locally, also bismuth sub-nit.
14	J. W. Brandon, Clarks-ville, Tenn.	1905	Jan.	M. W.	6 d.	Umbilicus. . . .	6 d. ?	4 d.	0	...	
15	F. H. Long, Madison, Neb.	1886	...	M. W.	6 d.	Umbilicus. . . .	6 d. ?	2 d.	1	...	
*16	J. G. Eberle, Fort Smith, Ark.	1889	...	M. W.	10 d.	Umbilicus. . . .	10 d.	2 d.	0	...	
17	R. C. Massenburg, Towson, Md.	1883	...	M. W.	7 d.	Umbilicus. . . .	7 d.	...	1	...	
*18	J. Henry Barbat, San Francisco.	1901	...	F. W.	11 d.	Umbilicus. . . .	11 d.	...	1	...	
*19	G. K. Vanderslice, Phoebus, Va.	1883	...	...	7 d.	Umbilicus. . . .	7 d.	...	1	...	
*20	Louis Fischer, New York.	1903	Sept.	M.	18 d.	Cord.	16 d.	...	1	...	
21	G. B. Forcue, Waco, Texas.	1903	Nov.	M.	16 d.	Cord.	16 d.	...	1	...	
22	W. P. Beall, Greensboro, N. C.	1903	Feb.	...	8 d.	Cord.	8 d.	...	1	...	
23	Dan Mullikin, Hamilton, Ohio.	1903	June	M.	6 d.	Cord.	6 d.	...	1	...	
24	Wm. Simpson, San José, Cal.	1905	...	...	...	...	...	...	...	...	
25	J. H. Tebbetts, Bolli-ster, Cal.	1905	...	...	...	...	...	...	...	...	
*26	J. W. Grisard, Win-ches-ter, Tenn.	1905	...	...	...	...	...	...	...	...	
27	H. E. Conley, Cannon Falls, Minn.	1905	...	...	...	...	...	...	...	...	
28	J. T. Asbury, Wabasha, Minn.	1905	...	...	...	...	...	...	...	...	
29	W. H. Rowe, St. James, Minn.	1905	...	...	...	...	...	...	...	...	
30	E. D. Keyes, Winona, Minn.	1905	...	...	...	...	...	...	...	...	
*31	S. L. Lee, Carson City, Nev.	1905	...	...	...	...	...	...	...	...	

* See notes appended.

a stable in an alley near the patient's house; probable source of infection.

Dr. J. P. Furniss, Selma, Ala., reporting Case 7, says: "Rarely met with except in negroes and practice of midwives." While registrar of vital statistics (20 to 30 years), there was an average of eight cases annually. Population then 8,000, but lately it has diminished.

Cases 13 and 14 occurred in the same family, the only cases Dr. J. W. Brandon had observed in fifteen years.

Case 15 was the only case recovered in three years' practice.

Case 16 was reported by Dr. Eberly, who saw six cases at different times, all occurring in the practice of negro midwives among negro infants. All developed within a week after birth, and all terminated fatally.

Case 18, reported by Dr. Barbat, was a case in a baby seven days old, which was due to infected umbilicus. Delivery by midwife. Baby died in two days.

Case 19, reported by Dr. Vanderslice, of Phoebus, Va., was a case in the practice of a midwife.

Case 20, reported by Dr. Fischer, who saw ten cases during service at German Poliklinik, with a history of continued spasms since birth. They belong to the poor, where faulty hygiene exists.

Cases 3 and 21 both occurred in the practice of negro midwives, the cord not being treated properly.

Case 23, reported by Dr. Dan Mullikin, resulted from mutila-

tion of the groin with blunt hook, during a difficult instrumental delivery.

Case 26, reported by Dr. Grisard, who saw two cases in thirty-five years; none in past eighteen years. No data appended.

Case 31 was the only case seen by Dr. Lee in Nevada in thirty-five years.

DURATION TO MORTALITY.

Table 6 shows that of 129 cases lasting five days or less, there were 95 deaths, or a mortality of 72.1 per

TABLE 6.—DURATION TO MORTALITY.

Days.	Cases.	Deaths.	Recoveries.
One or less.	37	34	3
2	38	30	8
3	25	11	14
4	15	9	6
5	14	11	3
6	5	4	1
7	10	4	6
8	4	2	2
9	0	0	0
10	6	1	5
11	1	0	1
12	6	2	4
13	0	0	0
14	1	1	0
15	5	0	5
Over 15 days	22	4	18
Total cases	189	113	76

cent. Of 60 cases lasting over five days, 18 died and 42 recovered, or a death rate of 30 per cent. These figures closely parallel our general observations in adult tetanus.

SUGGESTIONS AS TO PROPHYLAXIS.

Dr. J. F. Hunter, secretary of the Mississippi State Board of Health, writes:

It would be impossible for me to give you the localities from whence these cases arise. I should judge, however, that most of them were instances in which midwives attended rather than the doctors. Our law requires all physicians to undergo an examination before the State Board of Health before they are allowed to practice in the state of Mississippi, but no examination is required of midwives, who are negroes, as a rule, and attend many cases of labor in the country. Of course, they are not aseptic, not even knowing the principles of aseptic measures. I think that if all places had a law requiring midwives to stand an examination, we could have a much less mortality from tetanus neonatorum.

In the light of our accurate, scientific knowledge of this disease, the education of persons, directly or indirectly concerned with the care of confinement cases, should be insisted on, especially as to the necessity for rigid, aseptic, hygienic care of the umbilical stump, and its treatment along the same rigid lines as any other surgical wound. To this end, a law in every state requiring registration of midwives should be enacted.

Our medical colleges should teach this phase of the matter with greater earnestness than is now being done. The subject of the tetanus bacillus, which at present is dismissed in a line or two, should be more fully presented. State boards of health should issue circulars of information for the guidance and direction of midwives and others who attend these cases. Charity societies and other philanthropic institutions should also take up the question and thus cause a widespread dissemination of the simple measures necessary for the prevention of this dread disease.

DISCUSSION.

DR. R. B. GILBERT, Louisville, Ky., said that since very few patients ever recover in cases of tetanus neonatorum, the subject ought to be studied with very much more care than it is. He doubts whether tetanus neonatorum is due to the poisons on the surface, and thinks it rather due to the septic matter internally. He has seen only two patients get well and the recoveries were within two months of each other. The treatment outside of irrigation with a normal salt solution was potassium bromid and chloral hydrate.

DR. WILLIAM T. WATSON, Baltimore, referred to a typical case in which he had removed at autopsy the umbilicus and all the thoracic viscera and sent them to the Johns Hopkins Hospital Laboratory, where they were carefully examined, but the tetanus bacillus was not found. He asked Dr. Anders in how many of his cases the tetanus bacillus was found.

DR. JAMES M. ANDERS, Philadelphia, said that in the group of cases referred to, examination of the cord showed the presence of the tetanus bacillus. There were only a few cases in which this test was carefully and accurately made. In the majority of the cases reported the diagnosis was based on the clinical findings.

Thyroid Tumor and Dysmenorrhea.—Giorgi relates in *Gynecologia* for August 31, the case of a young woman who had suffered for years from very painful and irregular menses. Enlargement of the thyroid gland was first noticed at 13, and at 15 the thyroid began to increase rapidly in size. At 17 this circumference of the neck was 45 cm., and the thyroid was extirpated, leaving only the upper part of the right lobe. The tumor proved to be an adenoma with multiple nodules. Menstruation has been regular and free from pain during the two years since, commencing the second month, after the operation.

Clinical Notes

HYMENOLEPIS NANA AND HYMENOLEPIS DIMINUTA, WITH REPORT OF CASES.

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MARIANNA, ARK.

HYMENOLEPIS NANA.

Synonyms: *Tania murina*, *Tania nana*, *Tania ægyptica*; *Diplacanthus manus*, *Hymenolepis nana*, *Hymenolepis murina*.

The dwarf tapeworm was found in man for the first time by Bilharz, in Cairo, Egypt, in 1851. He recovered a "countless number" of them at a postmortem on a boy who had died of meningitis. In September, 1904, Ransom¹ was able to collect from the literature 118 cases of *Hymenolepis nana* infection of man. The geographic distribution of these cases is as follows: Egypt, 3; England, 1; Italy, 75; Serbia, 1; Russia, 3; Germany, 4; Siam, 1; Japan, 2; North America, 24; South America, 4. I have been unable to find any cases recorded in North America other than the above mentioned by Ransom.

The 24 North American cases are distributed as follows:

Philadelphia, 1872, Spooner ²	1 case.
Galveston, Texas, 1902, Moore ³	1 case.
Charleston, 1902, Stiles ⁴	1 case.
Macon, Ga., 1902, Stiles ⁵	3 cases.
Washington, D. C., 1903-4, Hygienic Lab....	12 cases.
Amarillo, Texas, 1903, Magnat.....	4 cases.
Fort Porter, N. Y., 1904, Hallock ⁶	2 cases.

Hallock's cases were probably imported, as they occurred in soldiers who had returned from the Philippines just eight and nine months previously.

Description of Parasite and Ova.—The length of *Hymenolepis nana* is variously given by observers as from 2.5 to 40 mm.; the breadth of mature proglottides, from 0.5 to 0.9 mm., and the number of segments, from 100 to 200. The head is subglobular, elongated, possessed of a retractile rostellum surrounded by a single row of hooklets numbering from 22 to 30, and has 4 suckers. The neck is slender and unsegmented. The segments of the strobila gradually increase in breadth toward the posterior extremity, the last 15 to 40 proglottides being usually stuffed with ova. Occasionally a sterile segment is seen between two fertile ones. The genital pores are single, near the anterior border of the segment and usually on the left side. Each oviparous segment contains from 80 to 180 ova. The ova are round or oval, measuring, according to different observers, from 26 to 58 micro-millimeters in diameter. Ransom's measurements were from 36x32 to 56x42 micro-millimeters. Miura and Yamazaki found the average of nine ova to be 50.7x42.9. Between the outer membrane and the inner one which encloses the embryo is a hyaline substance which surrounds the latter like a wide halo. Within the embryo can usually be distinguished five or six hooklets lying parallel or radially. A few very delicate filaments may commonly be de-

1. Ransom: "An Account of the Tapeworm of the Genus *Hymenolepis* Parasitic in Man," Bull. No. 18, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington.

2. Spooner: Amer. Jour. Med. Sci., vol. lxx, p. 136.

3. Moore: Med. News, Feb. 6, 1904.

4. Stiles: "Illustrated Key to the Cestode Parasites of Man," Bull. No. 25, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington.

5. Stiles: "Prevalence and Geographic Distribution of Hookworm Disease in the United States," Bull. No. 10, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington.

6. Hallock: THE JOURNAL A. M. A., vol. xlii, p. 891.