

psychoses of the secondary period will yield to the same treatment as nonspecific disorders of like character. The sclerosis, which syphilis, like the essential fevers, produces, and which in its premonitory stages is the underlying factor of the parasymphiloses, can not be affected by an antisymphilitic treatment. The child whose development is arrested by syphilis, without any direct gummata or other specific characteristic, can not be benefited by antisymphilitic treatment.

The same truth obtains with regard to tuberculosis. Many of the phenomena that are most distressing are nontuberculous in nature, albeit the toxin is the primary cause of the very serious secondary causes. These latter need treatment rather than the tubercle bacillus or its microbic allies.

From what has been said, it will be obvious that the pathophysiology of disease needs attention rather than the nosologic label, and more even than the patient himself, otherwise than is viewed from this pathophysiologic standpoint.

DISCUSSION.

DR. ROBERT A. HATCHER, New York City, asked Dr. Butler what preparation of cactus he uses. Recently Dr. Hatcher had occasion to examine one of the popular cactus preparations offered to the medical profession, and though this preparation was injected into mammals and dogs, as rapidly as it was possible to force it into the veins in large doses, and given to frogs in doses up to 25,000 times the human dose, he was unable to perceive the slightest effect.

DR. W. E. ROBERTSON, Philadelphia, referred to some experiments with digalen in which Dr. Hoyt and he, at the University of Pennsylvania, injected large amounts into dogs, the dose being given 15 minims at a time, until they used one and a half bottles of digalen, equivalent to 22½ ordinary doses, in a dog weighing 17 kilos, before they got the effect that was produced by tincture of digitalis when only five minims were introduced.

DR. GEORGE F. BUTLER, Chicago, regretted very much that only the few immaterial, non-essential statements of his paper impressed his hearers. The principal point, he said, they failed to grasp, evidently. Some years ago he did a great deal of pharmacologic work. This he has abandoned and is now working on living human beings. In the course of his pharmacologic work, he fed a dog 10 grains of morphin to test the antidotal powers of potassium permanganate, when the dog smiled and wanted more. Of course, he said, it is well known that dogs are not susceptible to morphin, and they may not be to many other drugs. Dr. Butler did not know the action of cactus on dogs weighing so many kilos or pounds, but he did know that clinically he has had certain good effects from it, as he has had from digitalis. What he wanted to bring out was the necessity of a heart stimulant along with the use of hydragogues. He has used many preparations of cactus. From some he has had good results, and from some he has not. The same is true of digitalis, he said. Although he is a regular physician, Dr. Butler said he would use anything on the face of the earth put up by any man, whether he be eclectic, homeopathic or regular, if it gives promise of relieving his patient.

He has had excellent results from cactus made by various firms; not on dogs but on sick people, yet he does not consider the drug as powerful a cardiac stimulant as is digitalis. Its action is somewhat different, but as a steady tonic to the heart, he considers it very valuable. He stated that he simply mentioned cactus as an example. He might have said digitalis. He has used the active principle or concentration of cactus with good results.

DR. C. S. N. HALLBERG, Chicago, asked Dr. Butler in what form cactus was used.

DR. BUTLER stated that he has used the preparations of various houses, including Abbott's preparation known as cactin, which he understands is a concentration. Clinically he has obtained good results, and that is all he cares for. The paper was not on any drug but on a purely different subject, namely: "Pathophysiology and Therapeutics."

DR. ROBERT A. HATCHER said that he realized that his question was an unimportant one, but he waited, before asking it, until he saw that no one rose to discuss the important part of the paper.

DR. C. B. LOWE, Germantown, Pa., called attention to the point that digitalis is a heart tonic which slows and strengthens the heart. Cactus is a stimulant which does not slow it at all. It is not in the same class.

CLINICAL OBSERVATIONS IN THE ACUTE INFECTIOUS DISEASES.*

LOUIS FISCHER, M.D.

Attending Physician to the Willard Parker and Riverside Hospitals.
NEW YORK CITY.

One of the most treacherous diseases with which we are confronted is scarlet fever. Knowing this, we can in a measure adopt and enforce certain prophylactic measures which will frequently prevent and modify complications. I have seen cases of septic scarlet fever sent into the Willard Parker Hospital in a moribund condition end fatally within twenty-four hours. On the other hand, I have seen patients exhibiting some of the most malignant types of scarlet fever recover. In spite of the severe type of cases the mortality in the Riverside and Willard Parker Hospitals is very low.

CASES OF SCARLET FEVER TREATED IN THE WILLARD PARKER HOSPITAL, NEW YORK CITY.

Year.	Number of Cases.	Deaths.	Mortality Per Cent.
1906. December 24 to January 1..	53	2	3.8
1907. January 1 to May 12..	478	41	8.6

CASES OF SCARLET FEVER TREATED IN THE RIVERSIDE HOSPITAL, NEW YORK CITY.

Year.	Number of Cases.	Deaths.	Mortality Per Cent.
1903.....	835	76	9.1
1904.....	899	75	8.3
1905.....	585	56	9.5
1906.....	458	32	6.9
1907, to May 15.....	169	14	8.2
Total.....	2,946	233	8.5

A careful study of the foregoing statistics affords convincing proof that the mortality is certainly very low. Bearing in mind that the cases are from the poorer classes whose food and hygiene can not compare with those of the wealthier class, then the mortality must appear surprisingly low.

My greatest anxiety occurs in private practice, first, because it is hard to keep older children in bed for several weeks, and second, because it is difficult to convince some parents of the necessity of keeping their children in bed for several weeks after a normal temperature has been reached.

The average up-to-date mother looks on the thermometer as her guiding star, and believes that as long as febrile temperature exists sickness abounds, and that when the temperature is normal convalescence is at hand, and, ergo, she plans to dismiss both physician and nurse.

Our duty is plain, and this is one of the most important points that I wish to dwell on, namely, to emphasize that the heart action and the pulse should be watched much more closely than the temperature. A feeble, intermittent or irregular pulse with low tension means much more in determining a prognosis than a sudden spurt of temperature.

The scarlatinal poison shows a peculiar predilection

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

for the heart, and this can be avoided only by enforcing absolute rest in bed. Thus I have seen more than one case of severe or malignant scarlet fever escape cardiac and other complications where strict rest in bed combined with careful diet and general attention to the emunctories was given (Fig. 1).

Some of the worst cardiac complications encountered were seen in the mildest type of scarlet fever, in which there was a very slight rash, very little fever, and the general appearance of a mild attack. Such cases are usually permitted out of bed too soon. In some cases one week after the rash first appears the child is allowed out of bed and into the street to play with other children and the infection of scarlet fever practically forgotten. It is to these cases that we can attribute many unknown sporadic cases of scarlet fever. These mild cases, by reason of their desquamation, frequently disseminate the scarlatinal poison and they are not given serious consideration until some dangerous complication manifests itself.

A plan followed by me is to insist on absolute rest in bed, enforce strict quarantine and stimulate the

after the beginning of his illness. A slight edema of the face and extremities was noticed. An examination of the urine showed a faint trace of albumin, few blood and pus cells and few hyaline and epithelial-studded casts with a normal gravity and a somewhat depressed relative amount of urea. This acute congestion of the kidney was so intimately associated with the patient's outing that I looked on it as cause and effect. This acute nephritis lasted in all about two weeks, at the end of which time the urine contained no morphotic elements, and the boy was permitted out of doors and sent to his home in Buffalo. One week later he had a slight attack of influenza involving both tonsils and the glands of the neck. The temperature reached 102.5 F. There was slight dilatation of the left side of the heart with myocardial involvement (reported to me by Dr. B. C. of Buffalo). The urine report showed albumin present, some red corpuscles and a few pus and bladder cells. Evidently the influenzal infection affected both tonsils as well as kidneys. This second attack lasted until April 25, when I was informed that his condition was normal and convalescence reestablished.

From my clinical notes I take the following:

History.—A child about four years old was seen by me with Dr. McB. The boy had just had severe convulsions. Several days previous he had vomiting and fever. Following convul-

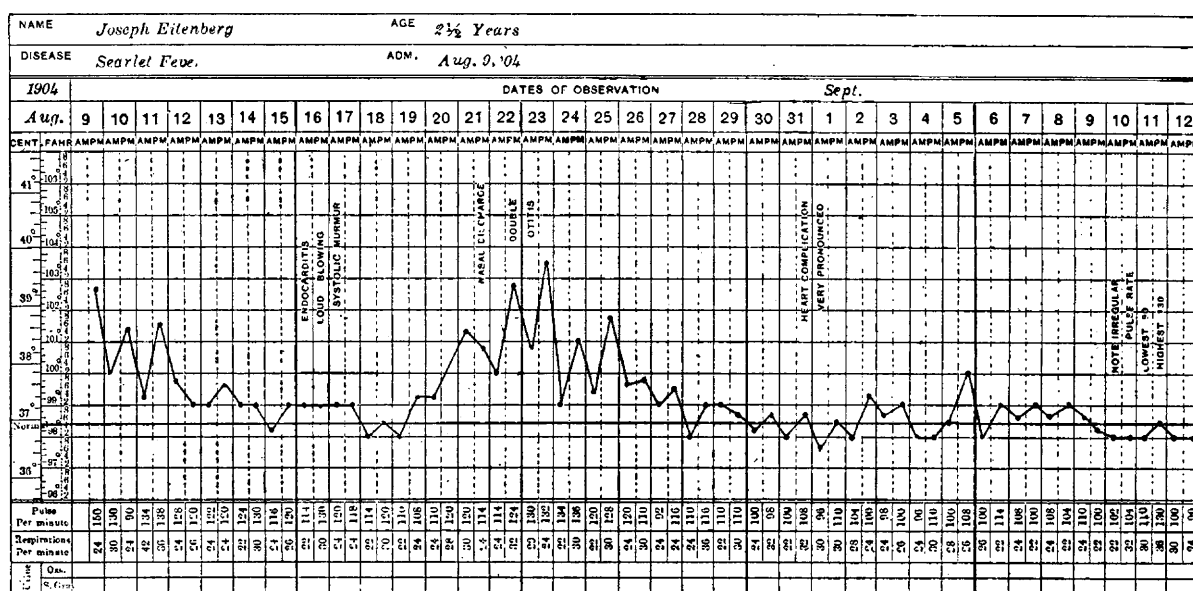


Fig. 1.—Chart showing temperature and complications in a case of scarlet fever.

emunctories. For the last named purpose nothing is better than a high saline colonic flushing given at a temperature of 110 to 115 F. This flushing given daily stimulates diuresis, washes the rectum and colon and, besides, is a general stimulant to the circulation.

The salt-free diet advocated during the course of a nephritis is not considered during the beginning of an attack of scarlet fever and does not apply therefore to the acute, severe forms of scarlet fever now under consideration.

The following case will illustrate the danger of allowing a child out of bed too soon:

History.—D. D., aged 14, was seen March 5, with Dr. H. at Freehold, N. J. The boy had been ill four weeks with scarlet fever. I was summoned because he had a convulsion the day previous due to a dietetic error. This was the first evidence of carelessness. In addition to the toxemia caused by the gastric disturbance there was a herpetic eruption on the tongue and gums, and with it follicular tonsillitis. The boy was lost sight of for several weeks. During this time he was out of bed and out of doors. I saw him a second time, less than three weeks after this convulsion and about seven weeks

after the beginning of his illness. A slight edema of the face and extremities was noticed. An examination of the urine showed a faint trace of albumin, few blood and pus cells and few hyaline and epithelial-studded casts with a normal gravity and a somewhat depressed relative amount of urea. This acute congestion of the kidney was so intimately associated with the patient's outing that I looked on it as cause and effect. This acute nephritis lasted in all about two weeks, at the end of which time the urine contained no morphotic elements, and the boy was permitted out of doors and sent to his home in Buffalo. One week later he had a slight attack of influenza involving both tonsils and the glands of the neck. The temperature reached 102.5 F. There was slight dilatation of the left side of the heart with myocardial involvement (reported to me by Dr. B. C. of Buffalo). The urine report showed albumin present, some red corpuscles and a few pus and bladder cells. Evidently the influenzal infection affected both tonsils as well as kidneys. This second attack lasted until April 25, when I was informed that his condition was normal and convalescence reestablished.

This case forcibly illustrates the fact that, although malignant in the beginning, with evidence of toxemia, convulsions and a severe rash, careful diet and stimulating the emunctories, especially with mild laxatives, a good result followed. The importance of rest can be seen, because I insisted on the child remaining in bed about seven weeks. Ventilation was carefully carried out. The child was removed to a different room and no adult visitors were permitted.

The destructive tendency of the acute infectious diseases is best studied by a comparison of the number of red and white corpuscles, before and after such infection. The influence of high fever, plus the toxic elements given off during the progress of fever, destroys the red corpuscles and reduces the amount of hemoglobin. When this has taken place and convalescence is established

then the altered condition of the system changed by passing through this storm of fever leaves the body in this damaged, subnormal state. This subnormal condition is usually accompanied by a marked leucocytosis. Because of the weakened state of the system and the omnipresent pathogenic bacteria, it behooves us to use the greatest amount of care so that reinfection is avoided, and more especially try to avoid the migration of these pathogenic bacteria into adjacent organs. The system should not be exposed to prolonged chilling of the surface because of the subnormal vitality which offers less resistance than is present in the healthy child.

In this paper I can not go into all of the acute infectious disorders, but shall limit it to a discussion of two of the most common infectious diseases and their most usual complications: 1, diphtheria; 2, scarlet fever.

DIPHTHERIA AND ITS COMPLICATIONS.

One of the effects of the toxin of the Klebs-Loeffler bacillus is that it inhibits the secretion of the gastric juice. The function of the peptic glands is therefore impaired. From this standpoint the quality and quantity of the food must be carefully regulated owing to their impaired or absent digestive secretion.

Instead of whole milk being given as it is during health, milk diluted with sweetened rice water may be given. Some cases will not tolerate even a small amount

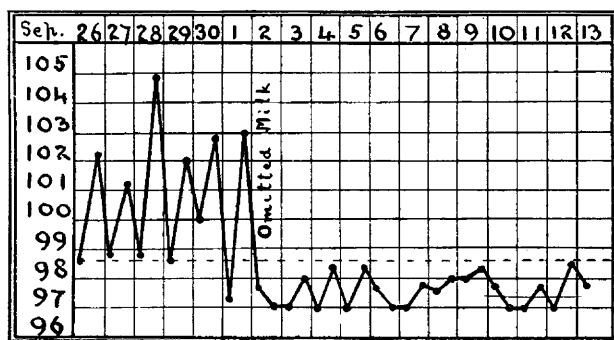


Fig. 2.—Chart showing temperature in case of gastric fever following diphtheria, due to the administration of milk, the stagnant residue of which caused intestinal autointoxication. Urine contained indican. Abdomen was distended. On October 2 the milk was omitted and the temperature returned to normal.

of proteid, and these cases do far better on carbohydrate feeding. I have frequently seen cases of acute milk fermentation due to stagnant residue of casein curds in the intestine. It must not be assumed that it is careless feeding methods only that are responsible for febrile disturbances. It is rather the peculiar susceptibility and individual gastric or gastrointestinal weakness that causes acute milk infection in some children, most especially, however, in convalescent patients who remain in bed and are thus deprived of out-door exercise. The following case will illustrate the condition referred to:

GASTRIC FEVER.

History.—Sadie B., about two years old, was admitted to the Willard Parker Hospital Sept. 5, 1906. She suffered with severe croup necessitating intubation. Ten thousand units of antitoxin were injected on admission, and five thousand units every other day—in all twenty thousand units. An urticarial rash appeared at the site of injection 48 hours after the first injection. The intubation tube was removed the fifth day, but as the stenosis reappeared it was necessary to replace it. The tube was then worn six days and the stenosis relieved. The child was apparently well and the temperature normal for four days but she was detained in the hospital because the culture still showed the presence of the Klebs-

Loeffler bacilli, and it was during this time that the feeding of milk caused fever, loose green stools alternating with constipation, and a distended abdomen. This fever continued as long as milk was given. The temperature varied between 96.4 and 104.8 F. A study of the chart (Fig. 2) is interesting because the temperature returned to normal when milk in every form was omitted.

Fermentative products in the intestine always give rise to a strong indican reaction and strongly supports the diagnosis of intestinal fever. Therefore the routine examination of the urine for indican should be made in doubtful cases of fever, for the same will aid in establishing the diagnosis.

Two noteworthy points in this case are: First, the fact that an urticarial rash developed forty-eight hours after the first injection of antitoxin. Second, the susceptibility of the intestinal tract to autointoxication resulting in fever from milk feeding.

The following case illustrates the danger of extension of the diphtheritic infection from the nose and throat through the Eustachian tube. In this case the secondary fever was due to an intestinal autointoxication from a complicated enteritis:

MIDDLE EAR INFECTION.

History.—Jacob N., 4 years old, was admitted to the Willard Parker Hospital September 30. He had been ill two days before admission. Both tonsils were hypertrophied and there was an exudate over the left tonsil. There was a nasal discharge. Otitis media was found the day following admission and a myringotomy was performed. There was a swelling on the side of the neck and behind the ear. The temperature persisted and ranged between 103 and 104 F. A bilateral double mastoid operation was performed by Dr. Kerrison and the temperature gradually subsided and the ear symptoms disappeared. One week after the operation the temperature of the child was normal and remained so for several days when there was a sudden febrile disturbance associated with catarrhal enteritis. By means of diet and eliminative treatment, the temperature returned to normal in about ten days. The child recovered.

The extension of the diphtheritic infection through the trachea and bronchi is one of the most frequent causes of fatalities in this disease. As a rule the streptococcus type of diphtheria yields this form of pulmonary complication. An important point to bear in mind is that every patient with diphtheria must have the thorax auscultated from the beginning of the disease and thus be watched for any pulmonary complication.

BRONCHOPNEUMONIA FOLLOWING INTUBATION.

History.—William O., 1½ years old, was admitted to the Willard Parker Hospital on the fourth day of illness, with severe croup necessitating intubation. Four days later the tube was removed but reintubation was necessary the following day. The pulse was bad from the beginning and a distinct bronchopneumonia was made out at the left upper and right lower lobe. The pulse showed its septic character. The patient died twelve days after admission.

The previous case showed an extension of the disease following intubation. The following case deals with bronchopneumonia complicating nasopharyngeal diphtheria without intubation:

BRONCHOPNEUMONIA COMPLICATING DIPHTHERIA.

History.—Theresa N., 3 months old, was ill five days before admission to the Willard Parker Hospital. She had a severe pharyngitis and an exudate on both tonsils. Developed a bronchopneumonia on the second day after admission. Intubation was not performed. Ten thousand units of antitoxin were injected. The pulse was bad from the beginning, heart sounds feeble. The child died of sepsis on the tenth day after admission.

LOBAR PNEUMONIA FOLLOWING DIPHTHERIA.

History.—Charles R., about 5 years old, was ill three days before admission to the Willard Parker Hospital, on July 23, 1906. A severe croup required immediate intubation. The tube was removed after a few days, but it was found necessary to replace it and leave it in for a long period. The child was practically well when on October 14 there was a sudden disturbance of the respiration accompanied by rapid pulse and high fever. On auscultation a lobar pneumonia was found, which continued for one week and terminated by crisis. The child made a splendid recovery.

ERUPTION FOLLOWING ANTITOXIN INJECTION.

History.—Lizzie C., 2 years old, was admitted to the Willard Parker Hospital October 12. She received in all 22,000 units of antitoxin. The case progressed favorably until about two weeks after admission, when the temperature suddenly rose to 103 F. and a general morbilliform antitoxin eruption was noted. This lasted in all about two days when the child was discharged cured.

HYGIENIC TREATMENT.

We must not expect to establish normal conditions unless we aid the enfeebled system. The elimination of toxins can only be brought about when we give sufficient oxygen and thereby give tone to the anemic system. Fresh air is therefore an important factor. Next to fresh air the skin should be sponged to remove desquamated skin and besides to stimulate the cutaneous circu-

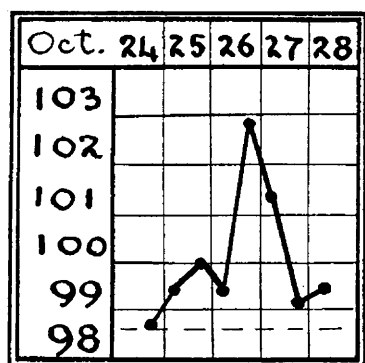


Fig. 3.—Chart showing temperature curve during a morbilliform eruption following the administration of 22,000 units of antitoxin. Rash appeared October 26, at which time temperature rose to nearly 103 F.

lation. For this purpose brisk rubbing after the bath will give tone and is a vasomotor tonic. Water should be given *ad libitum* during the course of acute infectious diseases. A drink of cool water is refreshing to a feverish patient and will not only dilute the toxin in the system, but by stimulating diuresis it will carry this poison from the kidneys.

It is important to study each and every individual case and bear in mind the most common and most usual complications met with. Some children have weak stomachs, others are susceptible to otitis due to chronic ear disease. The rachitic and the syphilitic child must be carefully supervised, for he is more liable to complications by reason of his systemic condition. In some families the kidneys show a peculiar vulnerability, and it is in such families that children will be attacked by nephritis.

Concerning prophylactic measures at the Willard Parker Hospital as well as the Riverside Hospital, we inject each child with an immunizing dose of diphtheria antitoxin at the beginning of the treatment of scarlet fever. This injection is merely a prophylactic measure and is given to prevent diphtheria as a complication.

DEDUCTIONS.

From a close study of the severe type and the mild type of scarlet fever I am convinced that next to careful diet, absolute supervision with the aid of a trained nurse, if possible, will do more good than all medication combined.

The walking convalescent with a weak heart and low digestive power who is permitted meat and cake or unwholesome food of any sort usually invites infection, and thus complications commence. The desquamation of the skin permits easy chilling of the surface of the body. In like manner the high fever produces a marked subnormal condition. Pathogenic bacteria remain dormant in the nose and throat and in the general circulation, and these require but one of the factors just mentioned to begin an active inflammatory process.

It is wiser to keep a child one week longer in bed, and two if necessary, than the customary four or six weeks, rather than be accused of carelessness and perhaps cause a fatal termination by a complication.

I am indebted to Drs. Henry L. Lynah and C. C. Coryell, resident staff of the Willard Parker Hospital, also Drs. S. P. Watson and Cannon, resident staff of the Riverside Hospital, for courtesies in the preparation of this paper.

DISCUSSION.

DR. C. DOUGLAS, Detroit, Mich., said that there are many things more important than the temperature, such as the heart's action. He indorsed the great necessity in febrile disturbances to keep the diet very low. He does not hesitate to take the diet out entirely while the temperature remains high. During convalescence he generally finds it necessary to modify the milk.

DR. A. W. FAIRBANKS, Boston, Mass., stated that it is often considered an inconvenience to have a child quarantined, and especially when the child seems well. It is, however, he said, a good thing for the child that it is shut up in one room for five or six weeks after an infectious disease, rather than to be allowed to play about the streets or home in unrestricted freedom. Physicians, he continued, should not yield to the importunity of parents to free a child from isolation after an infectious disease from any feeling that the confinement is doing injury to the child. Recovery after an infection is not established when the disease disappears. It is weeks, sometimes months, before the toxic organic injury is compensated. The stricter the measures instituted by the board of health in the case of infectious diseases, the better not only for the safety of the community, but for the physical welfare of the child.

DR. L. T. ROYSTER, Norfolk, Va., asked Dr. Fischer whether in the Willard Parker Hospital, they are still using an exclusive milk diet for several weeks in scarlatina.

DR. T. W. KILMER, New York City, considers it of greatest importance to keep the children in bed, although some children can not be kept in bed. If they do not feel sick, they refuse to stay in bed. In regard to examination of the children, he thinks that no matter what their temperature is, the urine should be examined daily. Often children with a normal temperature show other pathologic conditions. He insisted that the gastrointestinal tract must be kept clean during convalescence. A great many cases come to a fatal termination because physicians do not recognize this. He asked Dr. Fischer if he found that the use of diphtheria antitoxin lowers the death rate or shortens the course of scarlet fever.

DR. H. LOWENBURG, Philadelphia, asked Dr. Fischer if he has followed these cases with reference to their kidneys for three or four years. He has three patients under observation who had scarlet fever four years ago and developed nephritis. Examination of the urine reveals albumin and a few casts. As to treatment, he has always felt that anyone who knew the treatment of scarlet fever knew the treatment of all the acute infectious diseases, aside from a few specific details.

Elimination, purgation and diet are the best means of controlling nephritis. If the physician forgets, in a sense, that he is treating scarlet fever, and looks ahead of time for nephritis and otitis, he is doing the most for his patient.

DR. L. FISCHER, New York City, replying to Dr. Royster, said that milk is the usual diet, and, although the treatment is carefully carried out, complications occur occasionally, and in spite of care and keeping the patient in bed under careful supervision, there are cases of high temperature. Dr. Fischer does not think milk *per se* will cause nephritis to appear or disappear, although he does believe that meat and other forms of irritant food may provoke nephritis. However, the mortality is higher in private practice because, as soon as the temperature is normal, the doctor allows the mother to feed the child meat and anything it wants. As to the action of antitoxin, he said that the complication of diphtheria has been cut down to one-fourth what it was years ago. He does not think that the injection of 1,000 units or more would have anything to do with nephritis. As to the recurrence of nephritis year after year, he said, presuming a case of scarlet fever exists to-day with nephritis, it is known that there is a susceptibility to reinfection, just as in the case of a tonsil that has once been infected.

PHLEGMONOUS GASTRITIS.

A REPORT OF TWO CASES.*

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BOSTON.

The term phlegmonous gastritis is used to characterize those cases of inflammation of the stomach in which the gastric submucosa, and to a lesser extent the muscular layers, are uniformly or focally infiltrated with pus.

Various names have been proposed for this rather rare condition, such as inflammation of the submucosa (Rokitansky), gastritis submucosa (Dittrick, Klebs), phlegmon ventriculi or gastritis phlegmonosa (Lebert and Bamberger), linitis plastica et suppurativé (Brinton), gastrité interstitielle suppurativé (Auvray), and submucous suppurative phlegmon (Krause). Phlegmonous gastritis seems, however, to be the best term and has been universally adopted by recent writers on the subject.

The disease was first mentioned by Borel (Opera, 1656). Further data were supplied by Sands (1695) and by Vorwaltner and Bonet. Lieutaud in his "Historia Anatomico-Medica" collected 7 cases. The first clear account in modern times was by Loewenstein, who in 1874 collected and reported 23 cases. In 1885 Sébillon published an article on the bacteriology of phlegmonous gastritis and reported a case from which he had been able to isolate a streptococcus. In 1890 Reinking collected 40 cases and in 1892 Mintz added 3 more. Jakoby in 1900 reviewed the entire literature and summarized 64 cases. In 1906 Schnarrwyler¹ collected in all 83 cases, including 3 of his own, with references to the literature. The present paper adds a report of 2 new cases and the literature of 6 cases not included in Schnarrwyler's work, making the total number of cases reported to date 91.

CASE 1.—D. W., male, aged 75, a decorative painter by trade.

History.—Except for the fact that his companions never heard him complain of his health, nothing is known of his past history. He was said to be a moderate beer drinker and lived a quiet life in a boarding house. Thursday, Feb. 14,

1907, he worked all day, but complained of having felt uncomfortable in his stomach for the previous two days. Friday morning he was worse and decided to stay in bed, but he assured his friends he would soon be all right. During the day he became steadily worse, vomiting bile-stained fluid and suffering intense pain in his epigastrium. The vomitus was said to be free from signs of blood or pus. Hot cloths and mustard plasters over the abdomen failed to relieve him and he was urged to call in a physician, but refused. His landlady heard him groaning during the night up to 2 o'clock Saturday morning, at which time his groans became fainter. At 6 o'clock he was found lying on the floor dead, evidently having fallen while attempting to cross the room for a drink of water. The duration of the entire illness was about four days.

AUTOPSY.

Macroscopic Examination.—The autopsy, about five hours postmortem, showed the body of a well-developed but emaciated adult male.

Peritoneal Cavity.—The surfaces were smooth and glistening throughout. In the upper portions several areas in the region of the stomach showed a fine network of congested vessels. The stomach was greatly distended with gas and fluid, but the intestinal coils for the most part collapsed. In the lower portions of the abdominal cavity were about 50 c.cm. of slightly cloudy fluid.

Gastrointestinal Tract.—The esophagus showed nothing abnormal. The stomach cavity was markedly dilated and contained about 200 c.cm. of sour smelling, cloudy fluid and much gas. The mucous membrane was everywhere dark red in color, greatly swollen, and the rugæ were flattened. The walls felt boggy and were greatly thickened, especially in the pyloric portion, where the cut surface measured 12 mm. in width. The thickening gradually diminished in passing from the pyloric to the cardiac portion. About 4 cm. from the pylorus, near the greater curvature on the posterior wall, was a small round ulcer with a red, swollen, slightly indurated margin and a crater-like opening about 2 mm. in diameter which led into the submucosa. The surrounding mucosa was slightly firmer and somewhat puckered in appearance and the thickening of the stomach wall was greatest in the region of this ulcer. On section, the submucosa was found to be greatly swollen, smooth, grayish yellow in color, and on pressure readily yielded purulent fluid. The muscular layers were pale gray in color and a little less swollen. The peritoneal surface was finely injected. The entire stomach was more or less involved by the lesion which ended abruptly at the pylorus. The mucous membrane of the duodenum was congested, but otherwise the remainder of the gastrointestinal tract appeared normal.

Pancreas.—This was deeply congested, especially at points where its surface was in intimate relation with the stomach.

The remainder of the autopsy showed the following secondary conditions: Chronic nephritis, healed apical tuberculosis, chronic pleuritis, chronic cholecystitis with gallstones, chronic cystitis, fatty infiltration of liver, and general arteriosclerosis.

Microscopic Examination.—Esophagus: In the submucosa were a few small collections of lymphocytes.

Stomach.—The surface of the mucosa in places showed post-mortem changes, such as failure of nuclei to stain and the disintegration of cells. The deeper layers were diffusely infiltrated by lymphoid and plasma cells and eosinophilic leucocytes. Occasional polynuclear leucocytes and endothelial cells were seen. The submucosa was greatly thickened and its normal appearance masked by a very extensive exudate composed of polynuclear leucocytes, serum, fibrin, micrococci, endothelial cells, lymphocytes and eosinophilic leucocytes. The polynuclear leucocytes were the predominating cell, occurring in large numbers; as a rule they diffusely infiltrated the meshes of the fibrous tissue, but were also found in large groups, which in places distended the lymph channels. A few leucocytes contained micrococci. Numerous areas contained fibrin, often as an extensive network of rather coarse fibrils, sometimes as a fine reticulum. Endothelial cells were fairly

* From the Pathological Laboratory of the Boston City Hospital.
1. Arch. f. Verdauungskr., Berlin, 1906, xii, p. 116.