

unreasonable. Can the chemic reactions of the laboratory be successfully repeated in the laboratory of the human body?

Has horse serum, plus disease, any natural place in the human blood? And the red corpuscles are dissolved by its presence. No material success has ever been achieved by the transfusion of healthy animal blood into the human body for the cure of disease. Transfusion of salt water accomplishes all that is claimed for the process. Now then, how much the less is likely to be accomplished when an infected animal serum is injected for the cure of diphtheria?

The blood has lost some of its component elementary conditions. It is thereby altered in character, and when acting through inflamed mucous membranes morbid symptoms are produced, such as are seen in diphtheria. The fluid which patrols the entire body should be strengthened rather than further decomposed and disorganized by the addition of extraneous and poisonous matter.

The records of the cases treated in the Willard Parker Hospital of New York City prove that antitoxin is dangerous and even fatal. The statistics of that hospital establish that the further use of antitoxin is unjustifiable. Extreme interest and effort to know the truth has guided the staff of the Willard Parker Hospital. Dr. Joseph E. Winters of New York has sought diligently to establish the value of antitoxin, but the clinical experiences have forced him unwillingly to condemn its use. Is it safe to neglect the warning of such an experienced clinician and medical teacher? Professor Lennox Browne of London, patiently and earnestly sought for clinical reasons to further the interests of antitoxin. His conclusions are emphatic and pronounced against it. Dr. Weeks of Philadelphia also deprecates the use of antitoxin, basing the conclusions upon an extensive experience in the Municipal Hospital of that city.

Health department statistics of New York are cited in Chicago to the advantage of antitoxin, and Chicago statistics are published in the interest of antitoxin in New York. Health department methods of collecting information must be taken with allowance for accuracy. Previous to leaving Chicago a culture was made of the tongue of the office boy and the tube left at the city health office. The answer received stated that the case was one of true diphtheria. In fact, the boy was not ill at all. Provisions were immediately made by the department to fumigate and otherwise annoy the family at the boy's home. Is it not easy to be seen that the enthusiasm and overzealous interest of the medical corps in the employ of cities may bring to the notice of the health departments cases similar to the one cited? Such reports go on the records and contribute toward the statistics which are sent broadcast. The statistics very quickly become confused and their power for usefulness is absolutely *nil*. Unquestionably large numbers of cases which have been reported to be diphtheria and cured by an injection of antitoxin have been of the bacteriologic class.

It was recently stated to me, upon good authority, that the sales were falling off rapidly and an early termination of the demand for antitoxin was not far off; also that offers to purchase antitoxin upon most advantageous figures had been declined because of the fear of pecuniary loss. Thus the straws point the way the wind blows.

103 State Street.

SOME PRACTICAL POINTS ON THE COMBINED EFFECTS OF ANTITOXIN AND INTUBATION,

WITH SPECIAL REFERENCE TO INFANT FEEDING IN MALIGNANT DIPHThERIA.

Read in the Section on Diseases of Children at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Ga., May 5-8, 1896.

BY LOUIS FISCHER, M.D.

Associate Professor Diseases of Children, New York School of Clinical Medicine; Physician to the Messiah Home for Children; Attending Physician Children's Department, German Poliklinik and to the West Side German Dispensary.

Certain factors appeal to us in a severe case of laryngeal diphtheria. The main point to be considered, however, is to afford instantaneous mechanical relief and prevent asphyxia. This, to my mind, is of more importance than the consideration of what the real therapeutics shall be.

If therefore, a child has recovered from the exhaustion following this mechanical relief by intubation, then it is necessary to commence with the real therapeutic management of the case.

If a history of diphtheria exists, and we are positive of the diagnosis, then we should without delay inject our case with either 5 c.cm. of antitoxin of the strength of 500 normal units, and if no relief is afforded in twenty-four hours, then we repeat the injection of the same dose of antitoxin. The choice as to the location of the injection depends on the practitioner. My own preference has been, that seen by me in Berlin with Professor Baginsky, in the interscapular space. It is not the purpose of this paper to detail the technique of intubation, for every one of us, no doubt, knows when and how to place a tube.

The same might be said for the injections of antitoxin. They have become so universally used that the technique is very well understood. It is an important point to lay stress on what I consider of vital importance, especially so, when we hear of sudden deaths occurring within a minute or two after an injection of antitoxin has been given. Any one familiar with the danger of injecting air into a vein will at once recognize the great importance of selecting that part of the body which is least likely to have large veins, and where we would be least apt to puncture them. A thrombus forming in a vein can easily produce death, and we all know that were the barrel of the syringe filled with plain water or milk or with any other ingredient, that death would occur just as quickly if air is injected into a vein, as it does or has done when antitoxin is injected.

We then have reached the two main indications demanded by science of to-day in the treatment of an obstinate case of laryngeal diphtheria: 1. We have satisfied nature's demand for the relief of the stenosis by intubation, and probably avoided asphyxia. 2. We have aimed, by injecting the antitoxin, at the destruction of septic elements or toxins introduced in the system through the agency of the Klebs-Löffler bacilli. The most important part of the treatment of a severe laryngeal diphtheria consists in the after treatment. I insist in every case of laryngeal diphtheria, with a tube in the throat, on feeding per rectum. By this means we can guard against that most dangerous complication, namely, Schluck-pneumonie. This latter is caused by the suction or flowing into the trachea, bronchi and capillaries of liquids, intended for swallowing, and causing pneumonia.

That such a pneumonia is not only a very difficult matter to handle, as a complication, should not be lost sight of, for more than one-half of all fatal cases die of this complication. I therefore advise giving a cleansing enema of soap and water, usually a pint in all, and throw it into the rectum and colon to wash away accumulated feces, and follow this cleansing enema by nutrient enema of peptonized milk, peptonized yolk of egg, peptonized beef juice, and sometimes small quantities of brandy if stimulation is called for. The interval of three hours is usually called for owing to the risk of exciting too active peristaltic movements and having the nutrition emptied out of the bowel.

It is well to bear in mind that the rectum absorbs and does not digest, and therefore that only liquid nourishment should be thrown in. No solid food should be pushed into the rectum. Small quantities will be better borne than large ones; all farinaceous food, like barley, rice and farina, soup made from beef, veal or chicken can be thrown into the rectum in quantities of one to two ounces.

I have frequently tried to resort to forced feeding by pushing a catheter through the nares into the esophagus and pouring small quantities of liquid food directly into the stomach, but this is such a highly objectionable plan in private practice that I have almost completely abandoned it. You will agree with me that while some parents will think it cruel to push a Nelaton catheter through the nose of their beloved infant for feeding purposes, they will not object in any way to using the rectum and colon for this purpose.

A point to remember in connection with dyspnea which sometimes occurs in an intubated child, is that relief is frequently afforded by giving inhalations of oxygen so that as a matter of routine, I invariably advise a cylinder of oxygen to be kept handy, in a malignant case of diphtheria with stenosis and threatened asphyxia.

The wonderful results achieved by me in the treatment of this dreadful disease are due to the rapidity with which I tried to overcome urgent symptoms. Thus I never leave a high temperature, of 105 degrees, without at once giving an antipyretic bath, immersing the child in a temperature of 90 and gradually cooling to 70, the duration of the bath to be in all about five minutes. This is to be continued every three hours until the temperature remains at 102. I do not use antipyretics during the course of treatment of diphtheria. One of the greatest mistakes encountered by physicians is that after an injection of antitoxin has been given, they discontinue all further medication. They do not properly nourish their patients and merely look for miraculous disappearance of the pseudo-membrane and all further symptoms after this one injection, and thus it is that the great many failures in the treatment of diphtheria with antitoxin are not due to the impotency of this most valuable therapeutic agent, but rather to the careless after-treatment, and sometimes the exhaustion of the patient, from lack of proper nourishment.

I insist on a thorough nasal irrigation of warm salt water solution at least twice a day, in every case of diphtheria without nasal complication, merely as a hygienic measure.

Sustain the Heart.—This can best be done with nourishment, and the less drugs used, excepting those urgently called for, as for example strychnin in minute

doses, the better. A wise plan is to give most children as little alcohol as possible. It is a good plan to give all medication hypodermically, so, for example, a minute dose of strychnin can be used if required, or alcohol can be injected. A cool, clear temperature of 65 to 70 degrees will add much to the comfort of our patient. If the glands of the neck are very much swollen, then an ice collar will do a great deal toward relieving the swelling. Spartein is sometimes called for, but unusual care must be exercised owing to the irritability of the stomach. Pseudo-membrane should be carefully noted in regard to its size, and every diminution looked upon as favorable progress. *Fetor ex ore* is a usual symptom of necrotic tissue, be it in the form of a pseudo-membrane or otherwise, and is usually found during the course of laryngeal diphtheria. A gradual fall of the temperature, not by crisis, but by lysis, should be looked forward to as a favorable symptom; so also the diminution of the size of the glands of the neck.

Such symptoms as high-colored urine with small traces of albumin, possibly a cast, were now and then found during the ordinary course of a malignant case of diphtheria, long before antitoxin was discovered. It is therefore not surprising to find it now.

I look upon the disappearance of a high color and a freer secretion of urine, and a disappearance of the albumin as favorable symptoms indicating convalescence. The respiration in some of my cases reached as high as one hundred per minute. A diminution in the number of respirations and at the same time decrease in the rapidity of the pulse, with the fall of temperature by lysis, are all favorable symptoms.

Diaphoresis, when commencing after a few days of treatment of a malignant case of diphtheria, I look upon as very favorable symptom, being nature's effort of eliminating toxic elements through the sweat glands.

I have purposely refrained from tiring you with the description of clinical histories of single cases of diphtheria, and furthermore, do not care to give you statistics which can be made to suit the whims of any author, but can assure you that I recognize to-day in diphtheria, not the old foe of former times, but am willing to give a better prognosis to-day, with proper antitoxin treatment, aided by so called supporting treatment, which consists in concentrating nutrition when the body most needs it, than by any old fangled method of treatment known.

AN EXPERIENCE WITH ANTITOXIN WITH INSTRUCTIVE RESULTS.

Read in the Section on Diseases of Children, at the Forty-seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5-8, 1896.

BY JOSEPH WM. STICKLER, M.S., M.D.

ORANGE, N. J.

I will quote but two cases, types of others, to call attention to points which seem to me to be of importance in connection with the administration of antitoxin.

Case 1.—Some time ago I was asked by Dr. Simmons of Orange, N. J., to see a boy about 7 years of age, who was suffering from some form of laryngeal stenosis. At the time he requested me to consult with him he could not discover by the ordinary method of examining the throat (with tongue depressor) any membrane. When I arrived at the house the child was sitting upon his mother's lap, presenting the appearance of a child in the advanced stage of so-called membranous croup,