in England and other European countries refer to the general institutional care of tuberculosis and not to advanced cases alone; owing to the migratory tendencies of tuberculosis sufferers the mortality rates in any single American city are not sufficient evidence on which to base accurate estimates of the decline of the disease from any particular item of prevention; considering the average duration of tuberculosis it is impossible to estimate the value of preventive measures which have not yet reached their full development. To provide principally for advanced cases of tuberculosis and minimize the opportunity for those suffering from the disease in the early stages can be excused only on the assumption that it is the hopeless and dying that are dangerously infective. The bacilli in incipient or moderately advanced cases are as dangerously infective as those in advanced cases and infinitely more widely distributed.

DR. T. B. APPEL, Lancaster: The conclusions drawn by Professor Wilcox seem to me to be most timely and most important. As the terminal stages of tuberculosis seem to present the greatest dangers of contagion, more effectual precautions should be taken in such cases to combat the spread of consumption. We as general practitioners know that patients come back from sanatoriums educated in the proper care of themselves, but they come back to the same insanitary surroundings and in my experience in time become careless, lose ground and in the end succumb to septic phthisis. Therefore, if better means of segregation of these poor, ignorant, hopeless ones can be obtained, their care would be much more effectual.

Blood-Pressure and Pulse-Rate in Pneumonia

DR. H. A. HARE, Philadelphia: The favorable ratio in croupous pneumonia is one in which the pulse-rate per minute is less than the number of millimeters of mercury as shown by the sphygmomanometer. In other words, if the pulse-rate be 90 and the blood-pressure 120, the patient is doing very well. If the pulse-rate be 100 and the blood-pressure 110, he is not doing as well as before. If the pulse-rate be 110 and the pressure 110, something must be done to bring back the normal difference already referred to, and, if the pulse-rate be 120 and the pressure 110, the patient is in grave danger and will probably die unless very active treatment causes him to rally before this abnormal ratio has lasted for any length of time. The fall of pressure may be considered to be the result of the toxemia which directly affects the vasomotor centers or the walls of the vessels themselves, or it may be due to a direct effect on the heart muscle, whereby this organ is unable to pump strongly enough to maintain pressure. It is of some importance to determine, if possible, whether this fall of pressure is due to one cause or the other, for, if it be vasomotor or vascular, direct cardiac stimulation is not needful, although it is true that most vascular stimulants are also heart stimulants. On the other hand, if the heart be at fault, attention must be directed chiefly to this organ. If the vessels be at fault, the difference between diastolic and systolic pressure will be marked, the heart, if strong, sending out a forcible wave of blood in an endeavor to fill the blood-paths. If the pressure be low from a failing heart, there will be little difference between diastolic and systolic pressure for obvious reasons. There is no treatment of pneumonia but there is treatment of the pneumonia patient, and this will vary in every case.

The Care of the Insane

DR. T. H. WEISENBURG, Philadelphia: Of all the problems which are now before the profession there is none more pertinent than the care of the insane. It seems to the alienist almost nonsense that general hospitals throughout the state should take care of medical and surgical patients and refuse to take care of the insane, thus making it necessary to send them to an asylum or a private sanitarium. The time has come when it is necessary that all general hospitals should have separate wards for the care of the mentally afflicted. A bill will be introduced in the next legislature providing for the placing of all the insane of the state in state institutions with proper provision for the criminal insane, the feeble-minded and epileptic. In this way the care of the insane by the various counties will be abolished. There are to be established two laboratories for the study of the causes of insanity.

(To be continued)

INDIANA STATE MEDICAL ASSOCIATION

Annual Meeting, held at Indianapolis, Sept. 28-29, 1911

The President, DR. F. C. HEATH, Indianapolis, in the Chair

The Sociologic Aspects of Syphilis

DR. C. E. BARNETT, Fort Wayne: The sociologic aspect of syphilis is a question of state concern, for syphilis not alone deteriorates the state's own subject and his progeny, but they, on account of their syphilitic degeneration, help to fill the state institutions, thus bringing a monetary factor into play. In my opinion the present publicity education on venereal diseases, for the time being, is a detriment rather than a benefit to humanity. When, however, the education finally permeates the mind sufficiently to show the dangers of inoculation and the necessity of preservation of the body against syphilis, then the good will have been done on account of education. The question of marriage when lues is present is almost entirely in the hands of the attending physician, and he is a coward if he fails to protect the innocent.

Diagnosis of Syphilis

DR. W. F. GARSHWILER, Indianapolis: The diagnosis of syphilis is based, first on certain usually well defined clinical symptoms which appear usually in regular order; second, finding in the blood-serum the organism of syphilis; third, by the therapeutic test, and fourth, by the blood-serum test of Noguchi and Wassermann. The fact that under all conditions, primary, secondary or tertiary lesions, dead or living, the spirochete usually maintains its characteristic shape, makes it easy to distinguish it from other spirilla. The therapeutic test should never be used to diagnose primary syphilis.

The secondary symptoms are usually an acute toxemia followed immediately by polymorphous skin lesions. The later secondary skin lesions are usually a relapse of the earlier secondary lesion of the skin and mucous membrane. In the secondary stage the dark field illuminator and the Wassermann test will prove of the greatest help in diagnosis. The therapeutic test has no place in the diagnosis of secondary syphilis, for the reason that the lesions tend to spontaneous recovery and that mercury and potassium iodid affect other diseases which simulate syphilis.

The diagnosis of tertiary syphilis becomes relatively more difficult by every method, except the therapeutic, the longer the time has elapsed from the secondary stage. The demonstration of spirochetes in the tertiary lesions is more difficult, on account of their lessened number, and failure to find them in lesions apparently specific proves nothing. The Wassermann test is far less reliable in the third than in the secondary stage. The therapeutic test becomes a valuable aid when other methods of diagnosis fail in tertiary lesions, and should be used only for diagnosis, and only in this stage, and not until other methods have failed.

Treatment of Syphilis

DR. D. C. RIDENOUR, Peru: The treatment of syphilis falls into two divisions, (a) practical, and (b) theoretical and experimental. Under the first I follow the treatment of those who favor the administration of treatment by mouth and inoculation, rather than hypodermically. Syphilis is a septi-cemia, I would, therefore, advocate a continuous, intermittent, eliminative treatment as the most practical. Another form of treatment which gives good results is the local inoculation with mercurial ointment. Sulphur baths in conjunction with mercury are excellent. Salvarsan has proved not to be a *therapia sterilizans magna*, but it is a valuable addition to the means of combating syphilis. The hypodermic mode of treatment of syphilis is painful, in many patients excites apprehension and is bitterly objected to. Furthermore, the need of the precedent administration of cocaine or morphia, as so frequently advocated for relief of the pains caused, is in itself very objectionable. It is occasionally dangerous and sometimes rapidly fatal. It is very liable to be followed by certain local complications, such as erythema, cellulitis, painful nodosities, abscess and sloughing. It cannot be carried out by the patient, but requires the attention or intervention of the physician-surgeon. However, if patients demand hypodermic

treatment, I would suggest the daily injection, intramuscularly, of 30 minims of liquor potassi arsenitis, with mercury by mouth.

DISCUSSION

Dr. F. B. CHARLTON, Indianapolis: There is just one reasonably effective solution in sight. We are already working for a national health organization with a chair in the cabinet, and, perhaps, when that comes about there may be something done with this question. We may get national laws by which we can handle the question of prostitution and indiscriminate relationships in a way that we cannot now. I do not see anything hopeful in dealing with it in any other way than by national legislation. There must be authority to control and authority to inflict penalties. As to diagnosis, I want to emphasize the necessity of getting the history in syphilis. I look on the taking of the proper history as one of the most essential points. Individuals have been pronounced syphilitic who never have had syphilis. This blunder is almost as pernicious as to make a mistake on the other side. As to the intramuscular injection of mercurials, this method is nearly universally accepted. We are giving mercury in its metallic form as calomel or the salicylates, and we are getting good results. Moreover, we never give cocaine or morphin to control pain. There is no particular pain at the time, sometimes a little feeling of a bruise twelve hours after. What are the advantages of this method over the old one of giving a man some medicine and sending him home to treat himself? Where they get an injection once a week or ten days, we get results, for they get the medicine. The other way they get the medicine incidentally—when they think of it, and too often they forget it altogether.

As to salvarsan, I doubt whether there has ever been a drug in the history of therapeutics so extensively studied, experimentally and practically, as salvarsan. It has been shown that there are no toxic effects from salvarsan, and that the eye does not suffer. There is only one complication, and that is in atheromatous conditions when the blood-pressure is high and the vessel walls weak. It clears up certain malignant cases that never yielded to the old methods. Give salvarsan and in forty-eight hours the patient can go home to his family without any fear of infecting them.

Dr. A. W. BRAYTON, Indianapolis: What shall we do in a case of syphilis? Diagnose it along modern lines, by the clinical symptoms, by the history, the organism and the Wassermann test, and then treat it according to the best of our judgment and knowledge as taught by the ancient, and, especially, the recent, history of the disease. We have come to the parting of the ways in the treatment of syphilis. We have a new addition to our therapeutics that cannot be laughed down—salvarsan. We can control our cases absolutely with mercury, if given rightly. Then why use salvarsan? Because it is safe, it acts quickly, and there is no risk (and this is the greatest value of salvarsan) of the patients infecting other individuals in twenty-four hours after taking treatment. When you come to consider the subject two or three years from now, there will be but one voice—and that will be for the intelligent treatment of syphilis by salvarsan, to protect the patient and the community.

Acute Anterior Poliomyelitis

Dr. W. D. HOSKINS, Indianapolis: Within the past five years there have been reported more cases of this disease than in all the previous history of medicine. The disease has long been suspected of being contagious, and a brief summary of its recent history will undoubtedly confirm the suspicion. Bacteriologists have not yet succeeded in demonstrating any constant specific organism. The virus passes unchanged through the finest filters. The pathology of the disease has for some years been known to be a degeneration of the motor cells in the ganglia of the anterior horns of the cord. A few points remain obscure. What is the reason for the decided preference for the anterior horns? Why are certain areas of the cord, notably the cervical and lumbar enlargements, especially vulnerable? Is the degeneration in the

anterior horns a primary lesion, or secondary to other parts of the pathologic process? The consensus of opinion now is that the infection is primarily a vascular one. One attack of poliomyelitis usually renders the individual immune. Second attacks have been observed; but are rare. In many mild cases complete recovery occurs. Of the epidemic cases, complete recovery occurs in about 25 per cent. The mortality in epidemics is approximately 12 per cent; in sporadic cases, 6 per cent. We hope there will soon be an immunizing serum. In the meantime, we can do something toward protecting the little ones in our care by acquiring an intelligent knowledge of the disease, making early diagnosis and preventing the spread of the infection.

DISCUSSION

Dr. F. B. WYNN, Indianapolis: This subject has been brought to our attention particularly by the agitation regarding it carried on through various public health agencies, and very properly, of course, because our modern knowledge of this disease teaches us that we are dealing with an infectious disease. The problem is to recognize this disease early, and that is hard to do. I do not know until the paralysis has come. I say to these patients, drink water, flush the system, dilute the toxins, keep the bowels very free—do anything to help get rid of the toxins. That is old-fashioned practice, but in these cases I believe it is the best practice. Then isolate the patient and take proper care of the secretions of the nose, which are known to be highly infectious in character.

Dr. ALBERT E. STERNE, Indianapolis: We have always had acute poliomyelitis with us. There is nothing new in its sporadic occurrence. Of course, we do not see the acute cases so often, but the subacute cases have always been with us. While I believe this disease will spread by contact, we are not absolutely certain whether we are dealing with a contagious disease, an infectious disease, or a contagious-infectious disease. I subscribe most heartily to what has been said in regard to the necessity of taking cases of this kind in hand early and watching them. But what I would like to most see is the profession awakened to the real danger of procrastination in the treatment of these conditions. We should treat this like any other deep-seated inflammation. We should prevent deformities, and we can—in cases that we see early.

Dr. G. W. McCASKEY, Fort Wayne: We do not even know enough about this disease to give it a name. It is not purely an infantile disease. It may occur in substantially the same form in adults. So, if we are going to be punctilious about the name, we must not call it infantile paralysis.

Tuberculin and Autogenous Vaccines in Pulmonary Tuberculosis

Mr. R. T. PETTIT, Ottawa, Ill.: Of 2,841 patients treated with tuberculin there were 1,932 patients cured or benefited from one to seven years after discharge, or 68 per cent. In the 19,249 not treated with tuberculin, 9,614 were cured or benefited, or 50 per cent. This shows an advantage of 18 per cent. in the tuberculin-treated group, a very substantial advantage. At the Ottawa Tent Colony, the results show that the percentage of incipient cases with cure or benefit in the tuberculin-treated group is about the same as in the untreated. However, the percentage of deaths in the untreated is over twice that in the tuberculin-treated group. In the moderately advanced stage, the tuberculin treated patients show a marked advantage, and in the far advanced stage, both treated and untreated, little in the way of treatment can be done.

With regard to autogenous vaccines, while it is yet too early to come to any conclusion regarding the ultimate results, I believe that in these vaccines we have another valuable adjunct to our present methods of treatment, and I believe we are justified in stating that in tuberculin and autogenous vaccines we have two valuable assets in the treatment of tuberculosis. However, we should not neglect the more valuable hygienic and dietetic principles of increasing the general resistance for these other methods of increasing the specific resistance, but, in order to produce the best results, they should be used together.

Local Use of Tuberculin in the Treatment of Open or Surface Forms of Tuberculosis

DR. THOMAS J. BEASLEY, Danville: The first point in these cases is to make a positive diagnosis, which is somewhat difficult. The tubercle bacilli may be found by the microscopic examination of the exudate. In a few instances I have applied tuberculin directly to the parts involved, and if a marked local reaction occurred, it seemed fair to conclude that it was a tuberculous infection. The therapeutic dose of tuberculin, when introduced hypodermically, causes tuberculous areas to become congested for a period of several hours. By the local application of tuberculin to open or surface forms of tuberculosis we can produce a similar reaction at the seat of infection, and by careful observation and repeated applications we can maintain in the tissues involved a constant reaction by gradually increasing the strength of the solutions employed. In applying tuberculin to such large areas as are frequently presented in some of these cases, great care must be exercised that the dose be not large enough to permit of enough absorption into the system to cause a general reaction. If the dose be too large in the beginning, the tissues may become insensitive and some difficulty may be experienced in producing subsequent reaction. It, therefore, seems advisable that the initial dose be small, and it is always dependent on the extent of the area to be treated. The tuberculin is applied by using a hypodermic syringe to spray the solution over the entire surface of the diseased parts. Where deep sinous tracts are to be treated, a flexible cannula is attached to a hypodermic syringe. When the cannula has traversed to the depth of the sinus, it should be withdrawn carefully and as the withdrawal is being made, the syringe should be emptied slowly of its contents. Enough of the solution should be used to fill all openings.

Twenty-four to forty-eight hours after the first application, a marked change is observed in the parts treated, the discharge being greatly lessened. The wound is not disturbed, except for the renewal of external dressings. Forty-eight hours later the severity of the reaction begins to subside. The parts are again irrigated with a saline solution, and an increased strength of tuberculin is applied. The treatment is repeated as often as seems necessary until a cure is produced. The value of this treatment in osseous involvements is yet to be determined, but it is reasonable to expect good results in this class of cases.

MICHIGAN STATE MEDICAL SOCIETY

Forty-Sixth Annual Meeting, held at Detroit, Sept. 27-28, 1911

(Continued from page 1397)

Nitrous-Oxid-Oxygen Anesthesia

DR. RICHARD R. SMITH, Grand Rapids: The advantages of nitrous-oxid anesthesia are: the decreased toxic effects, shown by clearer mentality following operation, lessened vomiting, quicker recovery from operation, lack of toxemia and lessened shock. These advantages are best seen in prolonged operations, to which nitrous-oxid-oxygen is especially adapted. Patients that one would fear to operate on under ether can sometimes be operated on safely under this administration. It encourages in the surgeon gentleness of touch and thoroughness, since he is less apt to be hurried by any danger attending a long anesthesia. Do not use it in operations on very robust patients, alcoholics, patients of exceedingly nervous temperament, and in operations on the head and throat.

Plyostigmin Combined with Morphin in the Treatment of Pain Following Abdominal Operations

DR. B. R. SCHENCK, Detroit: At present in the postoperative treatment of patients, there is a general unanimity of opinion, except in regard to the use of morphin. Some surgeons never use the drug while others give it almost, if not entirely, *ad libitum*. The majority use it sparingly, relying on codein or heroin. Morphin would be used universally (except in cases where there is danger of masking important symptoms) were it not for its paralytic effect on the intestine and

its causing vomiting. Combining physostigmin with it seems to antagonize the effect on the intestine. I use tablets containing gr. 1/6 of morphin and gr. 1/75 of physostigmin. As many hypodermics of this are given as are necessary, the bowels moving well with an enema on the third or fourth day. The discomfort of the dreaded "third day" is entirely removed. The combination tablet relieves pain as well as plain morphin and prevents gas accumulation and meteorism.

DISCUSSION

DR. W. P. MAXTON, Detroit: I have used more or less extensively both morphin and physostigmin—but not the combination. It seems to me that in this day and generation the use of morphin should be done away with very largely. For probably more than twenty years I was in the habit of giving laxatives and cathartics the night before the abdominal sections, and during all that time I had frequent cases of abdominal distention, sometimes extreme. For the last six or eight years I have given up entirely the use of laxatives before abdominal operations, and as a result I have rarely had a case of distention. In those cases I have employed physostigmin with, in a majority of instances, good results, but I have never given it in large doses. Instead of morphin I have used codein phosphate almost *ad libitum*, and I find a small amount of pain and irritation resulting from the inflammation taking place from the incision in healing, and codein phosphate has controlled all the symptoms, so that nowadays I very rarely give a dose of morphin. I have no doubt that the combination of morphin and physostigmin is a good one, if you are bound to use morphin in these abdominal cases, but I think that morphin can, in a majority of these abdominal cases, be omitted.

DR. E. M. HORTON, Detroit: It is readily recognized that morphin is, perhaps, the drug par excellence for controlling pain, but it has always been, I believe, open to the question whether to give it internally or subcutaneously, in which case it is excreted very promptly. I think that some have shown that morphin given subcutaneously is excreted back into the bowel inside of two or three minutes. Whichever way the drug is given, you get an action on the bowel and you get more or less of a paralysis and a lessened peristalsis. We know that morphin controls the pain largely because of the central action of the drug, and it seems to me that Dr. Schenck's idea that it would be wise to use physostigmin in combination with morphin rests on a good basis. In physostigmin you have something that stimulates the muscle in the wall of the intestine to contract. I believe a good many experiments have been made to show just whether it acts on the muscle fibers or on the nervous mechanism in the muscles, but so far no one has been able to pin the matter down exactly.

DR. JOHN N. BELL, Detroit: I would like to ask Dr. Schenck to tell us whether or not his use of physostigmin and morphin has relieved the tendency to nausea which is also so distressing after using morphin. I have used codein phosphate for some years, and it has been my experience that not infrequently, although I have given 2½-grain doses, I have still been forced to resort to morphin to relieve pain.

DR. RICHARD R. SMITH, Grand Rapids: The treatment of postoperative vomiting is on the table—in the giving of just as little anesthetic as possible. So it is with this matter, I believe, of postoperative pain—postoperative ileus—postoperative distention. The treatment of these begins on the table, and means a brief and gentle manipulation, and when the surgeons work with this in view real progress will be made.

DR. B. R. SCHENCK, Detroit: I agree that the cause of postoperative distention and postoperative discomfort is not how you prepare the patient and treat him afterward, but how you treat him while he is on the table; but even though you treat him with the greatest respect, he is going to have some discomfort. Codein is not as good an analgesic as morphin. Regarding the nausea, although I have given three or four sixths of morphin the first twenty-four hours, I certainly think the nausea has not been any greater or perhaps less, but there are so many factors that enter here that, perhaps, we are a little prejudiced and allow our judgment to lead us to form opinions which are not correct.