

these drugs, with or without strychnin, will dissipate the congestion, prevent extension of the inflammation and shorten the attack of bronchitis. By using the active principles of the plants, greater accuracy of dosage and certainty of effect are secured. With such agents one is combating the inflammatory process, and certainly their employment is more rational than the administration of expectorants to start the secretion and then opium and other drugs to stop it. When they are used intelligently the long continuance of the catarrhal trouble and the administration of all the host of expectorants will be largely obviated.

Under the best treatment the mortality of capillary bronchitis will always be high, so the prognosis is invariably grave.

The ultimate results of the prolonged inflammation of the bronchial and peribronchial tissues and the changes in the surrounding alveolar tissue are of great interest, but their discussion would prolong the paper to an unjustifiable length.

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MANAGEMENT OF CATARRHAL PNEUMONIA IN INFANTS.*

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NEW YORK.

Catarrhal pneumonia, on account of its large mortality and because of its frequent appearance as a complication in almost every disease of infancy, is one of the most formidable ailments which we are called on to treat.

The disease is usually described as primary and secondary. Among the several hundred cases which have come under the writer's observation comparatively few were primary, not 5 per cent. Those described as primary usually follow a bronchitis, often a neglected bronchitis. The disease varies considerably as regards its severity, depending on the age and condition of the child, the nature of the infection and the amount of lung involved. It occurs with its greatest fatality when associated with diphtheria and measles.

Catarrhal pneumonia demands the best attention we can give it, not only on account of the delicate organ attacked, enclosed in weak thoracic walls, but because, unlike lobar pneumonia, scarlet fever, typhoid fever and many other diseases of early life, there is no self-limitation, no cycle. In these diseases we are only required to assist a patient through the various stages; in catarrhal pneumonia we must do more—here we are asked to cure.

Every child at the commencement of illness has a definite resistance with which to withstand the disease. In catarrhal pneumonia, for the reasons just given, it must be our effort to preserve every strength unit which the child possesses. An immense amount of vitality is wasted in sick children because of irritability, restlessness and loss of sleep. One of the first duties in a given case is not to give this or that drug, or use this or that local application, but to make the child comfortable—to put it in the best position to withstand disease. We must establish a sick-room régime which will make this possible.

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FRESH AIR.

The value of a constant supply of fresh air is too little appreciated. There should be a direct communication with out of doors in every case throughout the attack.

VENTILATION.

Various means of ventilation have been devised. A very cheap and effective one is the window board, which anyone can make. The board is placed under the lower sash, between it and the window sill. I usually order it to be four inches wide. This brings the sash apart and allows the entrance of a free current of air, which is directed upward. If plenty of fresh air at a proper temperature were available during the early part of the illness, there would be much less use for oxygen later on.

An absolute necessity in a sick room is a good thermometer. In pneumonia cases this thermometer must never register above 70 F.

CLOTHING.

There is a marked tendency to coddle, to wrap, to overclothe the pneumonia patients. The patient requires during the winter absolutely nothing more than a medium weight flannel shirt, the band, if one is worn, and the usual night dress. I have, some years since, discarded the oiled silk jacket. It is cumbersome, it is impossible to keep clean, and it overheats the patient.

Given an infant with catarrhal pneumonia, have him heavily clad, keep him in an unventilated, overheated room, in close contact with an adult body, and you have a patient who is tremendously handicapped. There is but one place for a sick infant and that is in his roomy crib.

FOOD.

In every illness with fever, the digestive capacity is considerably reduced. If the usual milk diet is continued, we are very liable to have a gastrointestinal infection added, oftentimes as a serious complication to the existing disease. In the breast-fed, a drink of water is ordered for the child before the nursings and between the nursings. The nursing hours should be the same as in health, but the time allowed for each nursing should be reduced from one-third to one-half.

In the bottle-fed, the milk strength should be reduced from one-third to one-half by dilution with water, so that the quantity given remains the same. Runabout children, those from 2 to 4 years of age, are put on a diet of diluted milk, gruels and broths.

Normal bowel function is more necessary for the sick than for the well. There should be at least one stool in twenty-four hours.

REST.

Having placed the child under the best dietetic and hygienic influences, we are in a position to use medication to a much greater advantage. In using medication and in performing the various offices, it must be our effort to disturb the child as little as possible. In our anxiety to do we are very liable to overdo, and often I regret, do harm. If a well child were given syrup expectorants, stimulants, baths and local applications, something done every hour or two in the twenty-four, he would have to be a strong child in order not to be made ill. We should treat our ill with more consideration. Make the interval that the child is to be disturbed at night as long as possible by performing the various offices at one awakening. Thus, at one awakening, the child can be given food, medicine and local treatment applied. I always endeavor to make the interval three hours when possible.

STEAM INHALATIONS.

Among the distinctly remedial measures, aside from those administered internally, steam inhalations with creosotes deserve an important place. The patient is placed in its crib, which is covered and draped with sheets so as to make a fairly tight enclosed space. The apparatus necessary is an ordinary croup kettle. Ten drops of creosote is added to one quart of water and placed in the kettle. The nozzle of the kettle is introduced between the sheets at a safe distance from the child's face and hands, the steaming being carried on for thirty minutes every three hours. The sheets should be parted slightly about every ten minutes so as to allow a renewal of the air. The inhalations are to be given both sleeping and waking. As a patient improves, the inhalations may be given at less frequent intervals until normal respirations and the chest signs tell us that it is no longer required. Steam inhalations in bronchitis and in catarrhal pneumonia are so well thought of by Dr. L. Emmett Holt that he had built in the new Babies' Hospital a special steaming room.

COUNTER-IRRITATION.

The application of counter-irritants to the skin over the thorax is, to the author's mind, a means of much service in cases in which there is a great deal of bronchial catarrh, which covers, of course, most cases. In order that a counter-irritant be of service, a distinct red blush must be produced on the skin. Turpentine diluted with oil, one-third turpentine and two-thirds oil, when briskly rubbed on the parts for a few minutes produces a fairly satisfactory counter-irritation. The old-fashioned home-made mustard plaster has answered best as a counter-irritant in my hands.

Written directions are always given for the preparation of the plaster, and the boundaries of the area of skin to be covered are indicated by pencil marks on the skin's surface. If the nurse or mother is simply told to put a mustard plaster on the chest, a plaster the size of a man's hand will usually be placed somewhere between the umbilicus and the chin. For the first two or three applications, one part of mustard to two parts of flour is used. This is moistened with water and made in the consistency of a rather thin paste. The paste is then spread on cheesecloth, old muslin or linen, which has been cut to the desired size. The plaster is readily held in position by a bandage of any thin material extending around the thorax. When the skin is well reddened, usually within five to fifteen minutes, the plaster is removed and vaselin or sweet oil applied. I never use a plaster oftener than once in six hours and then only in the severest cases. Ordinarily, two or three applications in twenty-four hours answer. If the plasters are continued for several days, it will be necessary to make them much weaker after a day or two in order to avoid blistering—one part of mustard to five or ten of flour. The counter-irritation is particularly effective when applied early at the commencement of the attack.

HOT MUSTARD BATH.

In cases of sudden onset, with high fever, rapid breathing and cold extremities, a mustard bath—one tablespoonful of mustard to six gallons of water, 100 F.—will often furnish marked relief to the immediate symptoms. Autopsies of these cases show a general congestion of the internal organs, with intense congestion of the lungs. The bath may be repeated at six-hour intervals. This type of case is usually very rapid in its development—the child is relieved or dead in thirty-six to forty-eight hours. By relieved we do not mean that

the child has recovered, but that the acute urgent symptoms have subsided.

These cases only, according to the writer's opinion, should be considered primary.

DRUGS.

The internal drug treatment is, to a large extent, symptomatic. A great deal of harm may be done to young children in the thoughtless use of drugs in any disease. In catarrhal pneumonia, it is particularly necessary that, in our endeavors to assist the patient, we do nothing to harm him, for we are treating a disease in which the resisting powers count for everything. In young children the digestive function is very easily put out of order in health. In illness with fever, and the nervous exhaustion attendant on the illness, the stomach is most easily disturbed; the child is not properly nourished and the ability to resist the disease is lessened. Expectorant drugs must be given with care and are better prescribed in tablet or powder form. The practice of using heavy syrups of wild cherry, tolu and others, with large doses of the ammonia salts, only adds to the burden of the patient. For a child 1 year of age with catarrhal pneumonia, one one-hundredth of a grain of tartar emetic and one-fortieth of a grain of ipecac answers well as an expectorant. If the cough is very severe and teasing, one-fourth of a grain of Dover's powder may be added to each dose. The drugs may be given in powder or tablet form with sugar of milk and dissolved in at least two teaspoonfuls of water and given preferably after feeding, not oftener than once in two hours. The ammonia salts so generally used in catarrhal pneumonia as a routine measure are badly borne by the stomach. The muriate is of some value during resolution, but should not be given in larger dose than one-half grain well diluted, at two-hour intervals. I rarely use the ammonia salts.

ANTIPYRETIC DRUGS.

When there is considerable fever and restlessness, which is not reduced by sponging, and when bathing, on account of lack of intelligence in the family, can not be carried out, a combination of caffeine, Dover's powder and phenacetin may be used. For a child 1 year of age I would give one-fifth of a grain of caffeine, one-half grain of Dover's powder and one and one-half grains of phenacetin at about four-hour intervals. In giving Dover's powder it is well to keep watch of the bowel function.

HEART STIMULANTS.

Heart stimulants are usually necessary, and in their selection two points are to be considered—their effect on the heart and their effect on the stomach. But, first, what are the indications for the use of the heart stimulant? Ordinarily, I think, they are used too early. A heart stimulant should never be given because the child has pneumonia or diphtheria or scarlet fever, but it should be given in pneumonia, scarlet fever and diphtheria as soon as we learn that the heart needs assistance. And, briefly, there are two conditions to guide us, a very rapid pulse and a soft, usually not rapid, pulse with a tendency to irregularity. In a general way, I believe that a heart which is beating at the rate of 150 during quiet or sleep and is not strengthened by sponging or packs needs assistance, and the drug which has served me best is tincture of strophanthus, which drug acts as a direct stimulant to the heart muscle. The pulsations, by its use, are made stronger and fuller and the beats per minute diminish. When the heart's action shows a tendency to irregularity, with a soft, easily compressed

sible pulse, then strychnin is the remedy. For a child 1 year of age one drop of strophanthus in water may be given every three hours. For a child 1 year of age one three-hundredth grain of strychnin may be given every three hours, to be increased to one two-hundredth or even to one one-hundredth of a grain every three hours for a few doses if the case is carefully watched for symptoms of strychnin poisoning. Strophanthus and strychnin possess advantages over all other stimulants in that they do their work and have no unpleasant effect on the stomach, as is the case with alcohol, digitalis and the ammonia preparations. If the condition is very urgent, strophanthus and strychnin may be used in combination. Digitalis I rarely employ because of its tendency to interfere with digestion.

ALCOHOL.

Alcohol in the form of whisky and brandy is very rarely of great service in catarrhal pneumonia. It may stimulate the heart, but its prolonged use greatly upsets the stomach. When used it should be held off until late in the disease, when other means of stimulation fail. Then, given in large amounts, it has been a means in my hands of carrying the patient through safely. One-half of one dram of whisky or brandy, well diluted, may be given every one or two hours to a child 1 year of age. The cases of catarrhal pneumonia, however, actually saved by the use of alcohol, are few indeed.

NITROGLYCERIN.

One one-hundredth of a grain every three hours for a child 1 year of age is of service in cases where there is marked cyanosis with cold extremities. Its use should be discontinued as soon as improvement in this respect is noticed. The one unpleasant effect that I have observed from its administration is a tendency to produce headache and marked restlessness.

BATHS AND PACKS.

A sponge bath for cleansing purposes at 95 F. may be given daily.

What is to be our guide in dealing with the temperature? At what degree of rectal temperature are we to interfere? Only rectal temperature should be considered. This depends to a great extent on what is behind the fever and its effects on the individual. If a child has a high fever and is more comfortable when it is reduced, if he will digest his food better and sleep better, it is our duty to reduce it. Further, by reducing the temperature we lessen the work of the heart, saving it oftentimes many beats a minute. Usually when the temperature has a tendency to run above 104 interference is of advantage, and the best means at our command is the use of local applications of water in the form of sponge baths or packs. If the temperature is not hard to control a sponge bath will answer our purposes. Either salt or alcohol may be added to the water. Ordinarily two teaspoonfuls of salt to a quart of water, or one part alcohol to three parts water is ample. It serves two purposes—the application of cold water acts as a sedative and reduces the fever. Cold sponging, while not controlling the fever as effectually as a bath or pack, possesses the advantage that the most unskilled can use it. For sponging, the child should be stripped and covered with a flannel blanket, the sponging being done under the blanket. In order not to antagonize or frighten the child, it is best to begin with the water at 95 F. and reduce gradually to 70 or 75 F. by the addition of ice or cold water. The sponging may be continued from ten to twenty minutes, and should not be repeated at shorter intervals than ninety minutes.

After the sponging is completed the skin should be briskly rubbed for a few minutes with a dry towel. If the temperature is not readily controlled in this way, it is best to use other means, as too frequent sponging exhausts the patient.

The tub bath as a means of controlling the temperature in children has not been successful in my hands for the reason that I have not been able to control active fever cases with it. The exposure, fright and necessary shortness of the bath renders it very unsatisfactory.

By far the best means at our command for controlling a continued high fever is the use of the cold pack. Properly applied, it is without the slightest danger. The pack is prepared as follows: a large bath towel or any thick material may be used; slits are cut in one end of the towel so that the arms may pass through it; the towel is folded over the body, and should extend from the neck to the middle of the thighs; the arms and the legs from the knees down should remain free; a hot-water bag, carefully guarded, should be placed at the feet; the towel is moistened with water at 95 F.—it is well to make the pack warm at first, so that the child will not be frightened and shock will be avoided. I have known severe shock to follow in a child with a temperature of 105 who was put suddenly in a pack at 70 F. In two or three minutes the towel is moistened with water at 85, then at 80. When 80 is reached, it is best not to make the water any colder for half an hour, when the temperature is taken. If, in the beginning, it was 105 and now shows a slight or no reduction, the temperature of the pack may be reduced to 70, or 60 even, by the addition of cold water or ice, without removing the child, the child being turned from side to side so that all the parts may be wet and the patient cooled. During the first hours in the pack, the temperature should be taken every half hour, and when it is reduced to 102 the child is removed and wrapped in a warm blanket. In cases of sudden and rather persistent high fever, the child may be kept in the pack continuously. We aim to keep the temperature between 102.5 and 103.5. I recently kept a 4-year-old boy, ill with lobar pneumonia, seventy-two hours in a pack. The degree of cold necessary to control the fever in a given case will soon be learned. In the case referred to a pack at 70 F. was necessary to keep the temperature at 104 or a trifle lower. The towel should be changed every three hours for a fresh one. An ice bag should be kept at the head, a hot water bag at the feet and the patient covered with a medium weight flannel blanket.

OXYGEN.

Oxygen is of immense service in very severe cases with restricted breathing space. It may be given continuously for one or two minutes out of seven or ten. As often given, one or two minutes every half hour, it is of little or no service.

SUMMARY.

In conclusion: In catarrhal pneumonia, the administration of drugs is of secondary consideration. We first make the child comfortable, place him under proper diet and hygienic rules of living, use local applications, steaming, and means other than the internal use of drugs, when possible. When drugs are given they should, without compromising their efficacy, be made as innocent as possible.

DISCUSSION

ON PAPERS OF DRS. BARBOUR AND KERLEY,

DR. C. F. WAHRER, Fort Madison, Iowa—Dr. Kerley's paper dealt with a disorder which presents many difficulties and

which brings very little credit if the issue is successful and much blame if the termination is unfavorable. A large number of these poor children are actually smothered to death by the treatment employed. This may not be the case in modern hospitals where there are skilful nurses and all of the conveniences for modern treatment, but a very large number of these cases must be treated in humble homes where nursing is practically absent. I was recently called in consultation to a little sufferer, 11 months old. I found a miserable room, about 6 by 12 feet, and a stove which kept the room at an insufferably high temperature. On this stove was a tomato can containing a little water, because the family physician had insisted that there must be some moisture in the air. The child's whole chest was covered with a heavy clayey preparation, about one inch thick. As if this were not enough the grandmother had added an onion poultice, and over this was a heavy blanket, and over this a feather bed. I am not exaggerating the conditions at all; these are the facts. When I took the rectal temperature of the child it was 110 F. I need hardly say that the child was dead in a few hours. Now, what was the medication? The doctor told me he had been giving a mixture containing a little ipecac and the compound syrup of squills, and that he had added to this some more tartar emetic, doubtless overlooking that the mixture already contained this ingredient, and some muriate of ammonia, with wild cherry. A teaspoonful of this mess was given every half hour. In addition to that it received three drops of aconite, in its asthenic condition, every half hour. This is a picture that is not infrequently met.

The diagnosis of bronchopneumonia is not always easy; to differentiate between pure bronchitis and pure pneumonia is sometimes well-nigh impossible. Only recently I was in consultation on a child of two and a half years which had been treated for bronchitis. After a time the left side of the chest became bulging. The introduction of a hypodermic needle evacuated pus, and the next day I made an incision and evacuated about one quart of pus. The diagnosis was plain. Microscopic examination showed the presence only of the pneumococcus. I am glad to say that this child is getting well.

DR. WILLIAM CARVER WILLIAMS, Chicago—I wish to emphasize in a few words what seems to me to be the most important part of Dr. Kerley's paper. I was especially interested in what he said of the conservation of the vitality of the patient at the very beginning. It seems to me that this is most important, and that it can not be too strongly emphasized. As a matter of fact it is the child's vitality and strength which will save him rather than the drugs or other means employed in the treatment; hence, everything in the way of therapeutics should be so planned as not to waste, as the doctor said, a single unit of the child's vitality. I believe that a great deal of such waste occurs because of a neglect of this advice.

DR. R. B. GILBERT, Louisville, Ky.—This subject is often very badly neglected. I can not make a very close differential diagnosis between capillary bronchitis, bronchopneumonia and catarrhal pneumonia; the truth is that capillary bronchitis, in an infant, is practically a pneumonia and should be considered as such. When we consider the minute caliber of the capillary bronchi in the adult, about 1/80 of an inch, and then think how much smaller it is in a child of one year, we can understand what obstruction must arise from congestion and blocking up by mucus. The wonder is that any case of capillary bronchitis or of catarrhal pneumonia in an infant ever survives, even with the most judicious treatment.

One of the essayists repudiated the use of ammonia. I wish to take issue with him, and draw a line at the bromid of ammonium. The muriate of ammonia is certainly very nauseous; the bromid of ammonia is a defibrinizer of the mucin, and a favorite expectorant. I sometimes also employ minute doses of belladonna along with some counter-irritant. When an emetic is necessary I think turpeth mineral is decidedly to be preferred. It produces emesis promptly, and within an hour afterward the patient will resume taking food without disgust, which is not the case after ipecac or lobelia. If there is a

little fragment of the turpeth mineral left in the system it is absorbed, and acts as a defibrinizer and expectorant.

Dr. Kerley has spoken favorably of Dover's powder, but I can not indorse this, or the use of any other form of opium, and I am rather surprised that he recommends it, even in minute doses. Chloral and bromid are certainly safer and answer the same purpose. The use of mustard plasters is certainly most excellent, even though it is a grandmother's remedy. It is not necessary here to weaken the mustard; put it on full strength and leave it on for a very short time, and the desired effect will be obtained. A bath or pack at a temperature of 80 F., and kept up for some time, will control the fever, and is much more comfortable than the colder application.

DR. HENRY E. TULEY, Louisville, Ky.—I think there are several things we should discard in considering bronchopneumonia in children; the first is the use of the name capillary bronchitis for the disease is really a pneumonia. Moreover, if called capillary bronchitis the laity do not attach sufficient importance to it. We should discard poultices entirely, for they are of no use and are a detriment. The use of all nauseous medicines should be avoided, and the coal-tar antipyretics should be discarded. The cold pack will be found most efficient, even when the fever is severe and persistent.

DR. THOS. D. PARKE, Birmingham, Ala.—The picture so vividly drawn by Dr. Wahrer recalls to mind another scene. I was called in consultation to see a child of 5, supposed to be in a desperate condition from bronchopneumonia—another consultant the day previous having given a fatal prognosis. The child was gasping for breath with the windows down and a kettle containing some tarry preparation boiling in the room. On examination I found that asthma was accountable for the character of the breathing, and had been masked by the bronchitis. The kettle was removed, the windows opened and a favorable prognosis given. And this is what I would emphasize: that in a small proportion of cases, asthma is engrafted on bronchitis and mistaken for bronchopneumonia. These are the cases, apparently desperate, that surprise attendants by prompt and unexplained recoveries.

With Dr. Kerley, I believe the main thing to do in bronchopneumonia is to conserve the energy of the patient. This can be done by giving plenty of air and by watching the intestinal tract for tympany. We all know how these little patients are apt to become tympanitic during the course of pneumonia of any type, and every one who has ever suffered from indigestion, accompanied by marked tympany, knows how distressing and depressing it is. As Dr. Kerley has pointed out so well, we should direct the feeding in accordance with this indication.

My own practice has been not to awaken a child with pneumonia for the administration of food. As I have already said, I am not afraid of starving these children. As regards baths, my practice has been, unless the temperature runs exceedingly high, and the child is very nervous, to make use of the pack as employed by Dr. Simon Baruch. He claims that full baths in water at a temperature low enough to reduce the body temperature will be apt to do harm. Some years ago I began the use of packs over the thorax. The mother is directed to dip a towel in water at a temperature of 85 or 90 F. and envelope the child in this from the umbilicus to the clavicles. These are to be changed every five minutes for fifteen minutes at intervals of an hour, provided, of course, the child is awake. If the temperature is excessively high, I give baths under the closest supervision, provided I can secure intelligent nursing. I am in favor of giving just as little medicine as possible. The tendency among all of us is to give too much medicine. We are influenced by environment and by our medical heredity. The first paper demonstrated this, and I think the same tendency was evidenced in Dr. Kerley's paper. We should constantly combat this tendency in the treatment of a disease like pneumonia. Like Dr. Kerley, I watch the intestinal tract and keep the bowels open. Strychnin is my main reliance among drugs, but I do not give it by the mouth. The bitter taste can be avoided, and the same effect obtained almost as quickly, by giving this drug by the rectum. I generally begin the

use of strychnin early, and I direct the use of a solution of strychnin injected by means of a small glass syringe into the bowel. I am in favor of large doses of this drug, and hence do not hesitate to administer to a child of one year 1/100 of a grain of strychnin, and on occasion I have given 1/75 of a grain every three hours for some time without producing a tetanic condition. I ordinarily begin with 1/150 of a grain, or 1/100 of a grain and increase the dosage. I do not fear producing twitching because I have never seen it do any harm, since by withdrawing the drug temporarily this symptom passes off.

DR. HUGH N. LEAVELL, Louisville, Ky.—I believe the mustard plaster is a most efficient means of relieving congestion in the earliest stages. The plaster I have been in the habit of using is not made at home because of the great variations in the strength of mustard. The plaster can be placed on the chest; I usually place it in the interscapular space and leave it there for from three to five minutes, and repeat this application four or five times a day. A good deal can be accomplished from the use of inhalations, more than from almost any other single method of treatment; nevertheless, it may be carried too far, so that in the later stages such practice may favor the smothering of the child in its own secretions. The same criticism may be made of the too long continuance of expectorant mixtures. Of course, the majority of us believe that syrupy mixtures do more harm than good, and hence I have been in the habit of using the tablet of antimony and ipecac, 1/100 of a grain each, in the early stages of this disease, at intervals of an hour for three or four doses, and then lengthening the interval to five or six hours up to the time of the return of the secretion. But there is another point to be considered in this connection. We know that the infant is not able to expectorate, and that the secretions are swallowed, and that they themselves have a tendency to upset the digestive organs and produce a pyretic condition. A good deal can be done in an antipyretic way by looking after the digestive tract in bronchopneumonia, by emptying the stomach occasionally and promoting the activity of the bowel. I do not favor the use of an antipyretic until this has been accomplished, but after this and the cold pack have failed I would be willing to make use of the coal-tar antipyretics, guarding them by the use of caffeine. Stimulation of the heart I conceive to be of paramount importance, but this stimulation should not be begun early in the disease unless even at that time there is distinct evidence of a flagging circulation, such as a shortening of the first sound of the heart. When stimulation is indicated, however, it should be pushed up to the desired effect regardless of what dose is necessary to secure it. I begin with 1/150 of a grain of the strychnia and increase it usually up to 1/60 or 1/50 of a grain.

DR. P. F. BARBOUR, Louisville, Ky.—I wish to disabuse the minds of those who think I believe in such an entity as capillary bronchitis. I took pains in my paper to say that it was a physical or pathological impossibility to have a pure capillary bronchitis. At the same time many of us will recognize that in many cases of catarrhal pneumonia it is the catarrhal element which is the dangerous one, and that in other cases there may be very little of this catarrhal element present. It was to draw attention to this phase of bronchopneumonia, and to the management of the secretion of mucus, which is often the greater danger to the child than the prolongation of the disease, or the high temperature, that my paper was especially written. I used the term capillary bronchitis to draw attention to what the older men called capillary bronchitis, i. e., a condition in which the mucus is really the great element of danger. One of the gentlemen has taken me to task for saying that the diagnosis of bronchopneumonia can be made by the tyro. He has taken the term out of its context. What I meant to say was that when we had made the diagnosis of a bronchitis and the temperature suddenly jumped to 103 or 104 F., and the pulse respiration became rapid, all of us would immediately suspect the occurrence of a bronchopneumonia. A previous history of a bronchitis and the sudden advent of the symptoms described would lead most of us to make the diagnosis of bronchopneumonia, even if we were unable to find the pneumonic area.

The question of medication is, of course, one in which we are all interested. Like those who have discussed these papers, I am very much opposed to the use of most of the syrupy mixtures employed by the majority of physicians in the treatment of pneumonia. The mixture of the mucus in the stomach with the syrup soon produces fermentation and flatulent distension. I do not think, however, that we should discard medication altogether, despite the great value of the local applications. I should be unwilling to trust the child entirely to these external applications. The only drugs on which I laid any stress were those used for certain specific indications. First of all strychnin is used to maintain the strength of the child, and secondarily for its effect in stimulating the reflexes, thus securing contraction of the capillary bronchioles and the forcing out of the mucus into the larger bronchi. I believe in strychnin from the start to the finish of bronchopneumonia, and I give it to the point of producing twitching of the muscles. The second drug on which I laid stress was belladonna or atropin. When the air bubbles back and forth in the mucus there is nothing which will give the good results of this remedy, because it not only checks the secretion of the mucus, but aids the action of the strychnin in stimulating the respiratory centers. I think all who have employed this remedy will bear me out in this statement. The last drug I insisted on was aconite, more in the prevention of bronchopneumonia than after its full development. Those of us who have used aconite in cases of acute tonsillitis, acute coryza and acute bronchitis must have noted its effect in checking the inflammation without upsetting the stomach.

With regard to the swathing of the child in poultices and jackets, I would say that I am opposed to the use of the oil-silk jacket for the reason that this material is impervious to moisture and air and prevents the exhalations from the skin. I do believe that light cotton batting jackets are of distinct service. Dr. E. Fletcher Ingals, Chicago, reports on more than 1,000 cases of pneumonia treated in the Cook County Hospital, and states that, irrespective of the other treatment, the mortality was 5 per cent. less in the cases treated by the cotton batting jacket than in those in which this jacket was not used. The sensation of cold striking the chest when the arms are uncovered seems to point to the value of some such protection, particularly in children who can not be kept as quiet as adults.

I have been in the habit of using nitroglycerin at the time of the bronchopneumonia when the dyspnea arising from the bronchial asthma is marked. The action of this drug is very evanescent, and minute doses frequently repeated seem to me to do better than large doses given at longer intervals.

DR. C. G. KERLEY, New York—Those cases which have been described in the older books as capillary bronchitis have presented, on autopsy, the pneumonic elements. Regarding my own paper, I would say that I carefully stated that I employ sedatives reluctantly, yet there were times when such medication was of distinct advantage. I have used Dover's powder and have recommended it because I have found it of service. If there is a sedative which I would not give a young baby it is chloral, because of its disturbing action on the stomach, and its depressing effect on the heart in young infants. No exact temperature can be laid down at which it is necessary to employ antipyretic measures; the effect of the fever on the patient must be our guide.

With regard to drugs, I may say that I am a thorough believer in drugs, but insist that they be given properly, that is, in a form in which they will do no harm while aiding in effecting a cure.

It is an extreme view that excludes all medication. I said that if food or medicine were to be given at night the intervals should be made as long as possible, but I do not wish any one to infer that I advocate giving food at specific intervals during the night. I have not seen much benefit from rectal medication; the absorption is very uncertain and the rectum is apt to show intolerance very soon. In the treatment of children we can not go very much by experience with adults. Children should be sufficiently clothed and kept covered, but I see no reason for employing any special form of clothing. Dr. Tuley will remember that in the New York Infant Asylum we used the oil-silk jackets very extensively, but in more recent years

I have discarded them, and I am firmly convinced that the cases do better without these jackets, or even the ordinary cotton batting jackets. I wish to emphasize especially the great importance of avoiding the common error of overclothing these patients.

Clinical Report.

BILATERAL ACUTE GLAUCOMA FOLLOWING ARTIFICIAL MYDRIASIS.*

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The points of interest in the following case are:

1. The absence of any previous objective or subjective symptoms indicative of glaucoma.
2. The violence of the attack following a single instillation in each eye of such a weak mydriatic (cocain and homatropin solution, gr. v to 3i.)
3. The long delay (39 hours) before the appearance of the acute glaucomatous attack.

On the morning of April 28, 1903, I was consulted by a woman of 50 in good health, but of rheumatic tendency, with a vague history of periodic ocular neuralgia, and symptoms of accommodative asthenopia. The eyeballs were not congested, the tension was about normal, and the anterior chamber of moderate depth. The pupils were active to light and accommodation, and so small that a satisfactory view of the fundus was not obtainable. One drop of a mixture of homatropin and cocain, 5 grs. of each to the ounce, was instilled in each eye. Complete mydriasis occurred in about 30 minutes. No cupping of the discs was seen, and no arterial pulsation or fundus changes were noted, although there was some peripheral lenticular segmentation. The ametropic correction was: O.D. + S.O.75 + C.O.25 ax.120°; O.S. + S.O.75 + C.O.25 ax.60° V.=6/5. The patient had previously worn simple spherical lenses (+S.3.25) for reading only, ordered by an optician.

The patient left my office without complaint or discomfort, and when I saw her the following morning there were no ominous symptoms. At 2 a. m. of the morning of the next day she was awakened by violent pains in the eyes, followed by intense retching and vomiting, and rapid failure of vision. I saw her about noon and found a typical attack of acute glaucoma in each eye. The tension was +2 or 3. The cornea of the right eye was hazy, rendering the fundus-view very unsatisfactory, but enough could be seen to show that there was no cupping of the disc, although there was marked arterial pulsation. The left cornea was so hazy as to obscure even the red fundus-reflex. The vision fell to counting of fingers in the right eye, and doubtful light-perception in the left. The pupils were widely dilated and inactive, the anterior chamber was abolished and there was intense conjunctival and ciliary congestion.

Eserin and massage were immediately applied, and local heat, diaphoresis and anodynes ordered. Sodium salicylate in 10-grain doses was given every two hours, tincture strophanthus in 5-drop doses every four hours, and mercurial inunctions were instituted every three hours. The condition continuing to grow worse, I performed posterior sclerotomy with a valve-like conjunctival flap, in both eyes. The following day ocular massage was again instituted and instillations of the following solution applied every three hours:

R. Eserin salicylate	02
Pilocarpin hydrochlor.	05
Sol. adrenalin (1-5,000)	10

The pain was relieved immediately by the incision, the tension fell rapidly, the anterior chamber deepened, the pupil began to contract and the normal visual acuity was established in 72 hours. Two weeks later all traces of the disease had disappeared, but the perimetric examination showed slight contraction of the fields of vision both for form and color. There

* Reported in discussion at a meeting of the American Ophthalmological Society, in Washington, D. C., May 12, 1903.

was no cupping of the discs or vascular anomaly in either eye. With correcting lenses the visual acuity was 6/5 in each eye. The question of iridectomy in the interval of quiet is now an open one.

On account of the absence of significant premonitory signs, and the long delay in the appearance of the acute symptoms, there may be some question as to intimacy of the connection between the application of the mydriatic and the glaucomatous attack. In any event, in view of the happy issue, the outbreak may be considered beneficial, as it enforced preventive measures that otherwise might have been delayed until too late.

New Instrument.

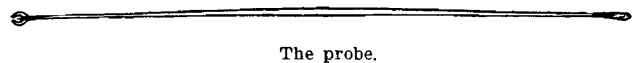
A COMBINED LINT CARRIER AND FLEXIBLE PROBE.

RICHARD LIGHTBURN SUTTON, M.D.

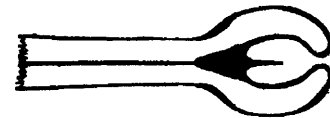
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Anyone who has tried the ordinary probes, directors and forceps for inserting gauze or lint drains into narrow passages or deep wounds is fully aware of the difficulty often encountered in the slight, but frequently tedious, performance.

An instrument which is sufficiently stiff and unyielding to ensure a positive hold on the strip of drainage material is seldom flexible enough to allow of its being pushed through any except an almost direct passage, while the pliable ones now in use, so far as I have been able to find, have either a plain, rounded point, to which it is extremely difficult for one to attach a piece of gauze in such a manner as to insert it in a wound and have it remain there when the instrument is withdrawn, or a flattened extremity with a V-shaped opening for grasping the lint or other material employed.



The probe.



The carrier end enlarged.

After a thorough trial, extending over a considerable period of time, I find the combined carrier and probe here illustrated superior to any I have yet seen. It is a trifle greater in diameter than those commonly employed, about eight inches in length, and is best made of sterling or German silver, aluminum being too soft and pliable.

One end is armed with a single sharp tooth, guarded laterally by two rounded projections which curve toward the median line, each having its inner border slightly hollowed out, while a shallow groove extends backward from the base of the tooth for about one-eighth of an inch. Consequently the strip of material used lies closely along the sides of the guide, and there are no projections or knots to hinder its passage into the wound.

The other extremity is bulbous in shape, and, like the one first described, is connected to the body of the instrument by a slightly constricted neck.

The central portion can be simply smooth and rounded or octagonal in shape. The latter affords a much firmer grip, and, as the additional cost is but slight, is to be preferred.

Phenician Origin of Leprosy in Western France.—Baudouin describes and illustrates certain relics in la Vendée in western France which indicate that the Phenicians established colonies there in prehistoric days as they did in England. (*Gaz. Med. de Paris.*) He believes that the endemic and isolated leprosy which is found in this province is also a relic of their occupancy. Leprosy was known to the ancients as the Phenician disease.