portion of our army already passed beyond our ken, that when we join it, a still brighter thread will be left to guide those following us. As men we will ever exhibit a manly independence and kindly affection toward all, so that when our turn comes to join the departed throng we shall do so with the consciousness that we have done what we could for the uplifting of our fellows and the ennobling of our race.

ORIGINAL ARTICLES.

INTESTINAL DISEASE OF CHILDREN DURING HOT WEATHER.

Read in the Section of Diseases of Children, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY PETER HOOPER, A.M., M.D.,

OF PHILADELPHIA, PA.

The causes of intestinal diseases in hot weather are mainly heat, impure air and improper food. Heat alone is evidently not the sole cause of intestinal diseases of children in hot weather, for relatively these diseases are more prevalent in the city than in the country. Still, heat is a potent factor, and I will consider this first.

The local abstraction of heat from the bodies of children suffering from entero-colitis or gastro-enteritis, I have always found to be productive of good. The use of cold water and cracked ice internally is also beneficial. Cold water compresses or the ice-bag applied to the head will reduce fever, and whenever I have used it there has been an improvement in the diarrhoea also. Since gastro-enteritis is chiefly a disease of hot weather, our object should be to lower the temperature, and this can be done by the keeping of large pieces of ice in the sick-room. The following case came under my care June 12, 1887:

H. S., aged 8 months. When I first called to see the child he had been sick for two weeks. Measles and gastro-enteritis was the history given to me on my first visit. I found the little patient in almost incessant convulsions, with rapid breathing, the pulse quick and jerking, the carotids strongly pulsating, the pupils contracted, the sphincters relaxed, and having very thin faecal evacuations. The temperature in the axilla registered $109\frac{3}{4}^{\circ}$ F. The treatment was the immediate use of the cold pack. Ice was rubbed down the spine and a block of ice was placed under the neck. In half an hour the temperature had fallen to 105° F., nothing being given internally. I directed that, during my absence, the same treatment be continued whenever there was any rise in the temperature. Chronic entero-colitis of several weeks' duration followed. During this time I continued the use of ice and ice-cold water externally and internally, and calomel, pepsin, bromide, bismuth and quinine suppositories were given whenever they were indicated. The mother

kept the child out of doors in the cool air and shade a great deal of the time. This she was able to do by going to the old family homestead, which had shady grounds and an unobstructed exposure a great distance in front of the house.

The principal infant foods were badly digested, and no improvement was made until cow's milk was given, peptonized at first and afterwards pure, being obtained from a farm near by. In October of the same year, while the child was still under treatment, hip-joint disease developed, which was cured by deep massage and inunctions of lanoline. Chorea next developed and remains to this day. Excepting this disease the child is healthy and well nourished. In this case the free use of ice and ice-water, both externally and internally, was always followed by the reduction of fever and improvement of the diarrhoea.

The internal use of cold water given freely is very often beneficial. The vomiting is often increased at first, but this does good by washing out the stomach. Afterwards a sedative effect is produced, which is a valuable step gained in that food and medicines are better borne. The use of cold drinks and cold applications is good in entero-colitis and gastro-enteritis.

In entero-colitis the faecal evacuations may be nearly uniform, or they may change in color at different times. They contain altered epithelium cells, partly digested casein, and sometimes mucus or mucus streaked with blood. Besides the free use of cold water or ice internally and externally it is good to use enemata of tepid water or medicated water to wash out the lower bowel. Enemata are useful when the movements contain mucus with or without blood. By this means the colon is washed out. Their benefit is limited, however, for the tepid or medicated clysters can not go beyond the ileo-caecal valve, and often the small intestines are the seat of most of the inflammation.

I have not enough experience with washing out the stomach to say much for or against it. I have known of deaths occurring while one or both of these treatments were being used. In the last stages, when collapse is present, I hardly think they are admissible.

In cholera infantum, when the child has the characteristic stools, viz: an acid, greenish-yellow fluid containing lumps of undigested food and casein, and, later on, evacuations similar to the discharges of Asiatic cholera, absolute rest of body and abstinence from food for twelve or fourteen hours are indicated. During this time plenty of cold water to drink or a piece of ice to suck or swallow, if the child is old enough.

Impure air is also one of the causes of intestinal diseases of children in hot weather. The first three years of my practice in Philadelphia I attended, during the summer months, a great many children suffering with intestinal diseases in one

of the poor sections of the city. The sanitary condition of the houses and neighborhood was deplorable. The water-closets were filled to overflowing, the streets were dirty, and decaying portions of vegetables were exposed to the heat of the sun. As a result of this impure air the death-rate was very high, and could only be lowered by getting the parents to take their sick children to some free sanitarium from day to day.

The use of improper food is another cause of intestinal diseases in hot weather. The mother's milk is the proper food for children. It is, however, exceptional for a mother to be able to nurse a child the entire first year of its life, so that a resort to other foods is wholly or in part a necessity. I have almost abandoned the use of milk foods. It has been my experience that children using them do not grow so strong, muscular or so rapidly as they should. When the mother's milk fails, or when it is possible to nurse the child only in part, my preference is for sterilized milk. Cow's milk, due to the handling it undergoes, is apt to disagree with children in hot weather; but when it is given sterilized, intestinal diseases are much less frequent. In some cases no dilution of the milk is necessary, as I have known many children fed on cow's milk from birth and it agrees well with them when obtained fresh. I attend one large family of children who are fed in this way, and none of them have ever suffered with intestinal diseases.

Prophylaxis.—In intestinal diseases of children prophylaxis is very important. Give the child plenty of cool, fresh air, without exposure to the intense heat of the sun. Sunshine in moderation is beneficial, as it develops the red blood corpuscles and prevents anæmia. The advantages of sunshine are seen in both the vegetable and animal kingdoms. According to Dalton, the tadpole requires nine months in the shade to change to a frog, whereas in the sunshine it takes but three. The dress is important also. Flannels should be worn all the year round, and a thin abdominal bandage day and night. The child should be bathed morning and night, kept as cool as possible during the heat of the day, and have cold water to drink and cold sponge baths to the head. By care and these particulars sickness may often be avoided and lives saved that would otherwise be lost.

Therapeutics.—In entero-colitis always begin with castor oil, guarded, if necessary, with opium; or calomel and bicarbonate of soda, if the fecal evacuations show a tendency to acid fermentation; if alkaline, bismuth subnitrate or subcarbonate may be used in place of the soda. Calomel and bismuth are antiseptic and antiemetic. Bismuth is also mildly astringent, and its local action on the inflamed mucous membrane is sedative. If there are no indications of convulsions, stupor or collapse, opium in small doses combined

with pepsin, or with pepsin and bismuth, answers well. The opium arrests the peristaltic action of the bowels and quiets the nervous system, while the pepsin aids digestion. Bromides and assa-fœtida may often be used in place of opium. When the nervous symptoms preponderate, equal parts of turpentine, sweet oil and laudanum, heated as hot as can be borne by the nurse's fingers, should be rubbed down the spine twice a day; and when pale, limpid urine is passed, it is more important to attend to it than to highly colored urine; for when it is pale and limpid a neurotic state of the kidneys exists, and powerful nerve stimulants should be given.

In cholera infantum very much the same treatment should be adopted, but stimulants should be used more freely. Probably the heroic treatment of the future, when other means fail, will be to open the abdomen and wash out the whole of the intestinal tract.

In all acute and chronic cases of intestinal diseases of children I cannot speak too highly ofunctions of almond or olive oil. If the child is rubbed two or three times a day with oil, an improvement in its condition is soon apparent. The advantages of this treatment are: First, a reduction of fever soon after the oil is applied; second, it nourishes and supports the child, which is a great desideratum when digestion is carried on imperfectly; third, it regulates the functions of the skin, which, when hot and dry, regains its natural moisture after the use of the oil. Effete material is more readily eliminated, the epithelium is softened, and the transudation of gases takes place more rapidly through the skin, oxygen being absorbed and carbonic acid gas thrown off. The importance of and benefit to be derived from bathing was early recognized by the ancients. Under the Roman emperors the baths attained a grandeur and magnificence that almost challenges belief. A great number of acres were covered by the baths of Diocletian and Caracalla. The world recognizes that the system of bathing attained its greatest perfection in the Roman empire during the days of Celsus.

At the present time there is a tendency to appreciate more fully the advantages of bathing, not only as an essential and necessary means of cleanliness, but also as a therapeutic agent for relieving, and sometimes curing, many obstinate and chronic diseases which do not respond readily to other modes of treatment.

The pepsin used should be soluble and as pure as possible. An insoluble pepsin contains inspissated mucus and ptomaines, and realizing that there is a great difference in the activity of the various preparations of pepsin, and the importance of selecting the best variety, I decided to test some of the pepsins of the market. The samples were procured from a druggist from the pepsins he had in stock. They were prepared

and labeled Nos. 1, 2, 3 and 4. Each sample contained a triturate composed of one-tenth of a grain of pepsin and nine-tenths of a grain of milk sugar. I did not know, at the time I procured the samples, whom they were manufactured by.

Test.—Several eggs were boiled for fifteen minutes, allowed to cool, and the coagulated albumen was freed from the yolk and superficial moisture, then pressed by a spatula through a brass sieve having thirty meshes to the linear inch. After thoroughly mixing the moist and divided albumen I weighed out and transferred 200 grains of it to a mortar; 110 ccm. of water acidulated with hydrochloric acid, in the proportion of 50 minims to the pint, was used, and the albumen carefully triturated with the same. The water was used in portions, so that a uniform division was obtained of the particles. This was transferred to the small cylinder placed in the apparatus, to which a water bath is attached, and where a temperature of 104° F. was sustained for six hours with frequent rotations of the digestive fluid by the pistons of the apparatus. After the stated time of the operation the cylinders were cooled and the activity of each pepsin as to its digestive power was noted. No. 1 was the only one which had digested all the albumen. This potent production is known as pepsin purum in lamellis, and is manufactured by Parke, Davis & Co. As nearly as I could ascertain without weighing the albumen in the other tubes, No. 2 had digested $\frac{7}{10}$, and Nos. 3 and 4 about 30 per cent. of the albumen in the respective tubes. The other specimens of pepsin tested were: No. 2, Fairchild's; No. 3, Boudault's; No. 4, Proctor's.

DR. J. SOLIS-COHEN, of Philadelphia, commended the use of cold water and ice externally as a means of reducing temperature, and deprecated the exhibition of the chemical antipyretics, which are usually cardiac depressants, and which aggravate the tendency to heart failure.

DR. J. A. JEFFRIES, of Boston, also advocated external cold.

DR. J. A. LARRABEE, of Louisville, considered it of great importance for the proper application of therapeutics to distinguish between the various diarrhoeal diseases. Are all these diseases the same, and do they demand the same treatment? In one class could be placed thermal diarrhoeas. The condition of the patient was similar to that in sunstroke, and the therapeutic indications were identical. Here the remedy, *par excellence*, is the external use of cold. He differed with Dr. Hooper in his conception of the term cholera infantum. Cholera infantum is a disease in infants similar in its clinical manifestations to cholera in the adult. It is in all probability caused by ptomaines. It is not usually preceded by ordinary diarrhoea, but begins suddenly. From the first, then, is the characteristic vomiting and their

watery stool. There is rapid abstraction of serum from the blood and the child quickly becomes pale, pinched, blue and cold and, unless relief quickly comes, dies. Cases of this kind must be differentiated from thermal diarrhoea and the other forms. Therapeutic measures must be immediate. There is no time for the exhibition of the ordinary remedies. For ten years he has been in the habit of treating these cases by the hypodermic injection of morphia and atropia. He gives about $\frac{1}{8}$ gr. morphia and a very small amount of atropia to a dose. A convenient method is to dissolve a tablet containing $\frac{1}{4}$ gr. morphine and $\frac{1}{8}$ gr. atropin in an ounce of water and inject 10 drops in a child 1 year old. This treatment has been very successful. For the often following diarrhoea he resorts to antiseptics, and chief among them he ranks calomel; for enterocolitis he prefers evacuates in the early stages. He has great faith in salines to relieve the strangulation of the vessels. For chronic cases he has had good results from frequent inunctions of oils.

DR. WM. PERRY WATSON considered it very important, as a prophylactic against diarrhoeal disease, to keep the legs and lower part of the body warm. In many cases milk, however prepared, cannot be retained. When this is so he stops the administration of milk and gives oatmeal water seasoned with salt and sweetened with sugar. It is given cool, in small quantities at a time, and at regular intervals. In the meantime, if the child cries, a little hot water may be given. It is an excellent remedy for ordinary colic. Cholera infantum usually follows other forms of diarrhoea, but may occur suddenly. It usually comes on the third or fourth of a series of hot days.

DR. E. F. BRUSH said that by visiting cow pastures one could predict the occurrence of epidemics of diarrhoeal diseases among infants. In favorable localities, when grass is good, cows refuse to eat certain weeds, as lobelia, poison ivy, buttercups, etc. Little clumps of these weeds may be seen dotting the pasture. When hot, dry weather comes and the grass is scarce, the cattle eat these weeds and the poisons taken by the cow are excreted in the milk. These poisons are gastro-intestinal irritants and give rise to cholera infantum in bottle-fed babies. Such milk even poisons and sometimes kills sucking calves. His treatment was to stop the milk and give chloroform in emulsion with castor oil and gum arabic. He condemned the use of artificial commercial foods. He had investigated the manufacture of these foods, and he had found that they were too often made of various refuse materials. When a manufacturer had a waste product that he did not know what to do with he made it into an infant food. He knew of one that was made of salmon roe and another from the whey from a cheese factory. One preparation of beef in the market was

made of the blood from slaughter-houses, preserved with whisky. The great advantage of the home preparation of food was that it was then known what was being given.

DR. I. N. LOVE said that he would use commercial foods as he would drugs—with great discretion, and never when other means were at hand and equally good. These foods were tools, and the physician can not always stop to make them. Again, it is not always possible to get what we wish at the homes of patients. Home manufactures can not always be trusted. He was sorry to learn that men engaged in the manufacture of these foods could be so base as to put filthy refuse on the market for so sacred a purpose as the feeding of infants. He could not condemn too severely such action, but he could not believe that all manufacturers were so dishonest.

A RARE CASE OF PRIMARY LYMPHOID TUMOR SPRINGING FROM THE FLOOR OF THE RIGHT PYRIFORM SINUS. REMOVAL THROUGH THE NATURAL PASSAGES. PERMANENT RECOVERY.¹

Read in the Section of Laryngology and Otology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY JOHN NOLAND MACKENZIE, M.D.,

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Mr. C., æt. 42, 5 ft. 10 in. high, weight 220 lbs., of Leesburg, Va., a prominent divine of the Methodist Episcopal Church, South, consulted me May 4, 1885, on account of an obstruction in the throat which seriously interfered with his vocation as a public speaker and which, when he assumed the recumbent posture, threatened suffocation from pressure on the windpipe.

Mr. C. was otherwise in perfect health and could assign no cause for the existing state of affairs. Deliberate and natural in his style of declamation, he had occupied the pulpit without detriment to his vocal organs for over twenty years. Although convinced that the trouble causing the obstruction originated at an earlier date, the first time he felt sure there was anything the matter with his throat was about eight months prior to the time at which he came to me for advice. At that period he became aware of a sensation which he compared to a piece of phlegm in the throat which seemed fastened to

the epiglottis, and which could not be removed by expectoration. Soon after, difficulty in public speaking was experienced; the throat would clog up when it became dry in speaking or when an effort was made to swallow. At the same time something would seem to sink down into the throat and close up the windpipe. He consulted his physician in Warrenton, Va., where he then resided, and was told that the uvula was elongated and lying on the tongue, and was given astringents to contract it. Several months of this treatment failing to remedy the disorder, he had the uvula "clipped" by a physician in Baltimore. This failing also to relieve, he returned to his native place and again consulted his former adviser, who found the soft palate considerably inflamed and the whole palatine arch in a relaxed condition, so that the mucous membrane "sagged down like a wet sheet." This condition was dissipated apparently by a few weeks' treatment with ordinary sprays, but after the parts became normal, he was still conscious of the obstruction to respiration. He again sought advice, insisting that there was something in the larynx. By depressing the tongue and causing retching, his physician discovered the upper portion of what he took to be a growth upon, or hypertrophy of the epiglottis, and advised him to consult a special surgeon at once.

At my request, Mr. C. prepared a detailed history of his case from which I take the following extract, in view of the interest attaching to the symptomatology of this class of growth: Prior to the discovery of the obstruction, "changes in the voice in preaching would occur in the same day, and sometimes in the same sermon. Sometimes the voice would be heavy and harsh in the morning, and difficult to control, and at night more flexible and easier to manage; or *vice versa*. Now it is disposed to be smothered, and I cannot with any comfort sing. This is its condition all the time. It was only when the growth began to impinge upon the epiglottis that the choking began. There is no soreness. I cannot lie on my left side and sleep. If I turn into this position at night I cannot get my breath. The growth seems much larger at some times than at others. Extreme cold or heat affect it. I cannot have comfort in a crowded, warm place. A temperature of about 50° F. seems to suit it best. Deglutition of dry food is impossible; it seems to adhere to the surface of the growth and stop the passage of air to the lungs. Speaking does not appear to injure it, but, on the contrary, it sometimes gives less annoyance after preaching than before, especially if the temperature of the room is not too high. It feels as hard as a piece of tender beef, but not larger than it did six months ago. Astringents seem to cause it to swell up instantly. Several times before I knew what it was, muriated tincture of iron was applied as far down as possi-

¹ The growth was presented before the Medico-Chirurgical Faculty at its meeting in 1885 (*vide* Transactions).