two requirements are met ideally by suspending any convenient reservoir a few inches above the patient's rectum and establishing connections by means of a freely open tube. The temperature is then maintained by some heating apparatus along the course of the tube, and by changing the solution in the reservoir.

Such an apparatus is described by Dr. Murphy in the *Surgery, Gynecology, and Obstetrics*, 1908, p. 592. For a hospital like the Mercy Hospital, where each patient can have a special nurse, it certainly seems to need no improvement. Where the special nurse is not always available, maintaining the temperature of the solution presents serious difficulty. This apparatus has the sole advantage of maintaining its own temperature.

An ordinary Thermos bottle is closed by a cork having two holes. One of these holes carries an inlet tube for air; the other, an outflow tube for the solution. The bottle hangs a few inches above the patient's rectum in a horizontal position. A double-walled rubber tube carries the solution to the rectum. One of Dr. Murphy's rectal tips is used. The flow between the reservoir and the rectum is entirely unobstructed. Measured in a rough way, the solution in the bottle cools $\frac{1}{2}^{\circ}$ per hour. Emptying at the rate of once in two hours, the solution cools about 10° in its descent through the tube.

This apparatus as used for some months in the Massachusetts General Hospital has proved extremely satisfactory. Not every patient absorbs salt solution with the same facility, but two pints every three hours is not at all an impossible figure in many, perhaps most, severe cases of peritonitis. We have usually found a preliminary cleansing enema necessary.

We wish to thank Dr. Murphy and particularly his assistant, Dr. Golden, for the courtesy shown an entire stranger in patiently explaining the principles and practice of Mercy Hospital proctoclysis. This apparatus is confessedly an imitation of theirs, merely using the Thermos bottle to maintain temperature, and this is probably a rather questionable improvement, except where the necessities of the case require its use.

Clinical Department.

CASE OF CEREBRAL HEMORRHAGE IN THE NEWBORN. DELIVERED BY OPERATION.*

BY FRED T. MURPHY, M.D.,

AND

JAMES R. TORBERT, M.D., BOSTON.

At the meeting of the Pediatric Society, Jan. 23, 1910, one of us, Dr. Torbert, presented a paper entitled "Cerebral Hemorrhage in the Newborn." In the paper, and in the discussion which followed, operation in selected cases was recommended as the only hope. In the discussion, the feasibility of operating on these young children was questioned and the opinion was expressed that manipu-

lation of the soft fetal brain was an impossibility. The present case is reported partly to meet the objections made in the discussion and to put on record another case in which operation relieved the intracranial tension and led to the recovery of the patient.

Mrs. M., a primipara, entered the Boston Lying-In Hospital June 3, 1909. She had been in slight labor for twenty-four hours, and after four hours of good hard labor in the hospital delivery was decided upon by Dr. Torbert on account of lack of progress and a rising fetal heart. The position was a breech and the delivery fairly difficult owing to the fact that she was not fully dilated at the time of delivery. The baby cried at once, being born at 6.30 p.m. It had a restless night, crying continually with a short sharp cry. In the morning the infant showed a left arm paralysis; also a slight facial on the same side. The anterior fontanelle was tense and bulging. A diagnosis of intracranial hemorrhage was made, permission for operation obtained and the baby transferred to the Infant's Hospital.

Entered the Infant's Hospital at 3.30 p.m., June 4, 1909. Pulse 140, respiration 48, temperature 98.6° . Pupils equal. General physical as above. Infant noisy when awake. Had convulsive movements of the face and periods of cyanosis; also periods of twitching of all the extremities, lasting one quarter of a minute. Swallowing was difficult. Urine was voided. At 9 p.m. there was general twitching during the examination. Lumbar puncture gave 2 drams of almost pure blood.

9.30. Operation by Dr. Murphy. Child carefully protected against loss of heat. Very slight etherization. A large horseshoe flap made to include the parietal bone, was turned down on the right side. On exposing the anterior fontanelle hemorrhage on either side could be demonstrated through the dura. Parietal bone in part on the right elevated and turned down as an osteoplastic flap. On opening the dura the blood spurted out to the height of several inches. Dural opening enlarged. The whole right hemisphere was irrigated. The blood had clotted very little. While the relief of tension had been marked, there was still considerable bulging of the brain substance. No definite point of hemorrhage found. The anterior fontanelle to the left of the median line was then opened for about an inch. A considerable quantity of fluid blood, but much less than on the right side, was discharged. This reduced the intracranial tension to within normal limits. As the condition of the child was poor, the left hemisphere was not exposed. The dura was roughly sutured. The bone flap held in position by a few sutures and the scalp carefully approximated.

Condition at end of operation fair.

12.15 A.M. Infant restless, slight convulsions, twitching of both sides.

3 A.M. Loud, sharp cry, followed by twitching of extremities. Infant sleeps a few minutes, waking suddenly and crying out sharply, then twitching both sides of the body. The pulse is bad during these attacks, but better during quiet periods. This condition continued all night.

Treatment. — Strych. sul., gr. 1400, subcutaneously every four hours.

Salt solution, 1 oz. every four hours, subcutaneously. It absorbed this well and swallowed easily and seems hungry.

June 5, 1909. Right-sided twitching all day; left side quiet. Cries out as if in pain. Takes food well and retains it. Fed with dropper. Is getting whey, 2 drams, every hour, 3 gtts. brandy every four hours

* Read at a meeting of the New England Pediatric Society, March 26, 1910.

in a dram of water. At night the food was strengthened to a 2, 5, 25, 25, and strychnine omitted.

June 6, 1909. Salt solution omitted at 5 P.M. Had a severe convulsion, at six another and condition poor.

June 7, 1909. The infant had a good night and day. No further convulsions. Still frequent twitching of extremities, more marked on the left.

June 12, 1909. No convulsions for five days. No twitching for three days. Takes food well from bottle. Discharged back to Boston Lying-In Hospital for breast feeding, in good condition.

June 12-18, 1909. Remained at the Lying-In Hospital. Took breast feeding normally and seemed in every way a normal child.

June 18, 1909. Discharged to St. Mary's Infant Asylum.

At St. Mary's Asylum the child at first seemed to thrive. There were at the time several cases of enteritis, and early in July this child had a gastro-enteric upset and died July 9. The cerebral condition was considered by those in attendance to be normal.

Reports of Societies.

NEW ENGLAND PEDIATRIC SOCIETY.

THE tenth meeting of the New England Pediatric Society was held March 26, 1910, in the Boston Medical Library, Dr. CHARLES P. PUTNAM in the chair. The following papers were read:

(1) CIRCULATORY FAILURE IN THE ACUTE INFECTIONS OF CHILDREN. CAUSES AND TREATMENT.¹

JOHN HOWLAND, M.D., New York.

(2) A CASE OF CEREBRAL HEMORRHAGE IN THE NEW BORN. DELIVERED BY OPERATION.²

FRED T. MURPHY, M.D., Boston; JAMES R. TORBERT, M.D., Boston.

DISCUSSION OF DR. HOWLAND'S PAPER.

Dr. C. H. DUNN: I have thoroughly accepted the theory that the circulatory failure in these conditions is due to inflammatory or degenerative changes in the heart itself, although that did not seem a very satisfactory explanation, particularly in connection with the results of the autopsies I have done at the Infants' Hospital, in which a great many children who had died apparently from circulatory failure in the course of acute infectious processes presented an absolutely normal condition of the heart muscles, valves and everything else. I think that the explanation that Dr. Howland presents, with the evidence in its favor, is very much more satisfactory than the old idea that these circulatory failures are due to a condition located in the heart itself. Occasionally in the course of acute infections there are circulatory disturbances which prove to be due to conditions in the heart itself, but it seems to me that these are easily recognized and differ very much from the form of circulatory failure which Dr. Howland has described. Most of the cases in which there are true cardiac lesions present actual symptoms of a cardiac incompetency, such as cardiac irregularity and murmurs, which differ in a marked degree from the symptoms described by Dr. Howland as due to vasomotor disturbance. I should think it is usually possible to distinguish the rare cases where circulatory failure is due to cardiac conditions from the commoner ones in which it is due to the vasomotor center conditions.

Dr. H. I. BOWDITCH: I was very much interested in

listening to Dr. Howland's paper, especially as it has dealt with a subject that I have been interested in and which I was asked to consider in discussing this paper — circulatory failure in diphtheria. It seems to me that the two cases I am going to offer illustrate well what Dr. Howland has said and that, despite the fact that toxin was given in small doses, that strychnia given to fight the succeeding cardiac disturbance and large large amounts of brandy do not do much to aid the collapse. Whether fresh air at that time had any influence on these patients, I cannot say. It is interesting to note that these two cases took place in July, 1903, when small doses of antitoxin were not infrequent. These patients incurred injections of 12,000 and one of 4,000 units, although septic and with membranes extruding on both tonsils and soft palate. The apparent improvements of the pulse after the fall of temperature was only temporary; gallop rhythm appeared in ten days to two weeks, then disappeared, and after a certain length of time of seeming recovery both patients suddenly died of heart failure. I will pass the two charts and hope that they will prove interesting. I should like to ask Dr. Howland whether oxygen was tried when children were taken into the wards as a possible factor in fresh air treatment; further, what he thinks about the cold-air treatment of diphtheria patients.

Dr. MAYNARD LADD: I should like to ask Dr. Howland if there is not a distinction between the acute circulatory failures occurring in the beginning of infectious diseases and those that appear late in convalescence, and if the causes of sudden death in the latter cases are the same as in acute circulatory failure, occurring in the beginning of the disease. Are not some of these deaths due, not to a central paralysis of the vasomotor apparatus, but to interstitial myocarditis? I have been particularly interested in what Dr. Howland has said as to the use of caffeine, and I wonder how many of the physicians here carry subcutaneous preparations of caffeine. The majority of physicians, I believe, have depended chiefly upon strychnine, but after listening to Dr. Howland's paper we shall use more caffeine than in the past. One of the most important things in the treatment of these cases of circulatory failure, and one which is very difficult to obtain in children, I think, is absolute rest, and this is something which ought to be impressed upon us very strongly. I saw a striking case where, from over-exertion in the acute stage of infection, acute circulatory disturbance set in and the child died in a very few days. The child was a spoiled boy, absolutely intolerant of restraint, and after wearing out a nurse in two days, refused to take medicine from the second nurse. In order to have them bring the first one back, he resorted to an outburst of temper, suddenly sprang up in bed, yelled with anger and fell back, dying a few hours after. The difficulty of controlling the patients in their homes in these conditions, especially those who have never been restrained, is very great, and yet I fancy that this element of rest is most important of all in the treatment of these conditions.

Dr. W. P. LUCAS: There are two things I am very much interested in which I wish to speak of in this connection. One of them, which I wish to impress strongly on the profession, is the fact of over-stimulation. There are so many cases that come into the hospitals that we see, especially in children with pneumonia and other acute conditions, which we feel have been over-stimulated. The fact of over-stimulation, I think, is something that is even worse, from many points, than no stimulation at all. There are more cases, I think, in children who are over-stimulated, given too much strychnia or too much brandy, than those who are not given enough. I was very much interested in

¹ See p. 627.

² See p. 642.