and not by reflex action from the direct impression of the spirit on the nerves of the stomach.

Another question presents itself, Whether the brandy would have had so powerful an effect if the diarrhoea had not been present? which fact also explains the rapid digestion and absorption of the arrow-root.

Again; Had the brandy any influence in augmenting the action of the aperient powder (of which the child's elder sister took the larger portion, without any unusual effect), so as to produce a state of dysentery requiring special treatment for its cure, the child being in perfect health at the time?

The last and most interesting question to the patient and his parents is, Whether the symptoms indicate any tendency to head affection, or a peculiar susceptibility to the influence of alcohol?

PROLONGED USE OF CHLOROFORM IN A CASE OF INFANTILE CONVULSIONS.

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IN Number 1554 of the *Lancet* for 1853, I published the notes of a case in which continuous convulsions in an infant, a few weeks old, were successfully treated by keeping the patient under the influence of chloroform for nearly three days without interruption. As such cases are not of very common occurrence, and as we yet need more accurate information respecting the form of disease to which this treatment is applicable, I think the following notes may also be worth recording.

CASE. On Dec. 19th, 1855, I was summoned to Stockport, where I found the infant of Mrs. P. suffering from fearful convulsions. The lady had been confined on the 14th of the previous October. Owing to subsequent illness, she was compelled to wean the child, then a very healthy one, within ten or twelve days of its birth. It continued well until December 14th, when aphthæ appeared in its mouth, but disappeared in two or three days. On the same day the first convulsions occurred, two taking place in the evening and two more during the subsequent night. On the 15th, there were several others. The child was free from them on the 16th, but they returned with increased severity on the 17th, the longest interval on that day being but three quarters of an hour. The child was under the professional care of my friend Mr. Graham.

I found the child pale, often livid, considerably emaciated, with a deeply depressed fontanelle, and with contracted clenched fingers. It was unable to take the least food without exciting a convulsion. Under these circumstances we determined upon employing chloroform, the use of which we commenced at 11 o'clock A.M. The convulsions were at once repressed, though they often struggled to overpower the anæsthetic influence that restrained them. A teaspoonful of thin beef-tea was administered every hour, without relaxing the use of the chloroform, as I had found necessary in my case previously recorded.

Dec. 20th. The child took its food well, and the convulsive tendencies were less obvious. We administered the eighth of a grain of quinine three times a day in a little syrup. In the subsequent night the child slept comfortably from 1 to 6 A.M. without the chloroform being needed; and when it awoke, it passed urine freely, which it had not done the previous day. The chloroform was at once resumed. When I saw the child in the forenoon of the 21st, the aphthæ had disappeared, and the child lay slumbering in the position natural to it when in health: the hands, which had hitherto been clenched with the characteristic contracted thumb, being now much less rigid. But the pulse was feeble, and there had been no motion. We gave half a teaspoonful of castor oil, and at intervals a little weak sherry wine and water. We also administered, as food, the preparation of milk originally suggested by my colleague, Professor Frankland, as affording the closest chemical ap-

proximation to mother's milk. Two green motions resulted from the use of the oil. At 11 P.M., the use of the chloroform was suspended; the child subsequently passing a good night. It was at times very hungry; after being fed it soon went to sleep again.

Dec. 22nd. The child continued well; the complexion was more natural; and it passed a more healthy motion than we had hitherto seen; but the subsequent midnight brought a change for the worse. The administration of a small quantity of the milk occasioned flatulence and uneasiness.

Dec. 23rd. At 2.30 A.M. a slight convulsion occurred, and another at 4, succeeded by attacks, which increased in frequency and severity up to 6 A.M., when a little chloroform was again employed. Difficulty of deglutition reappeared with the return of the convulsions. These recurred at intervals during the day, but were as constantly repressed by the chloroform, which was applied the moment each convulsive tendency became visible.

Dec. 24th brought with it a recurrence of the events of the previous day; the convulsions invariably supervening whenever food was administered. A carminative mixture, containing a little opiate, was given at intervals, but without doing either good or harm. An attempt was made to obtain a wet nurse; but the good town of Stockport apparently did not contain a superabundance of such helps to suffering infancy. We could not succeed.

Dec. 25th. The convulsions continued. A wet nurse was at length obtained, and her milk, drawn by means of a pump, was administered twice without occasioning any convulsion. The child obviously enjoyed it, and slept well after each meal. Our supply unfortunately again failed us; the child became feeble and very poorly. A little weak brandy and water was given occasionally, and an injection of beef-tea, with a little sherry wine, administered.

Dec. 26th. Convulsive movements continued, but chiefly affecting the face. These the chloroform failed to control. A fresh wet nurse having been obtained, mother's milk was again supplied.

Dec. 27th. Finding no benefit likely to accrue from the interrupted administration of the chloroform, we determined once more to apply it continuously; recommencing its use at 10 A.M. with the intention of continuing it without remission, until the morning of the 28th; but about 2 P.M. the administration of some food was speedily followed by lividity of the face and an appearance of suffocation. The chloroform was at once suspended, though I am disposed wholly to attribute the attack to the food. Unlike what we had observed in the early stages of the affection, a difficulty was now experienced in administering food without an entire suspension of the chloroform for a few moments.

Though the final administration of the chloroform was more limited than we had designed, it proved sufficient, and no more convulsions occurred. The child slept well, and took food (mother's milk) from a spoon very readily. This favourable change proved a permanent one, though even on the 30th the hands continued clenched, and the motions green. Anodyne carminatives soon corrected the latter symptom, and the hands gradually relaxed. The child took the breast in the ordinary way a day or two after, and is now fat and flourishing.

REMARKS. That this case was of the hydrocephaloid type, resulting from the loss of the child's natural food, was indicated by the depressed fontanelle, pallid face, and feeble pulse. Most probably this is the class of infantile convulsions in which the anæsthetic treatment promises to be successful.

The preceding record indicates—1st. That to be successful, the use of the chloroform must be *continuous*, and not *intermitting*. 2nd. That no artificial food should be given; but that a wet nurse should be employed from the commencement of the treatment, drawing the milk with a breast-pump, and administering it in a spoon. I have little doubt but that had a wet nurse been in readiness on Dec. 20th, the recurrence of the convulsions on the 22nd would have been prevented.