having experienced any satisfactory relief from any treatment which was adopted. No operation was performed.

In the paper which we have already referred to we took occasion to mention that we thought some analogy might be perceived to exist between the condition of the brain and its circulation during the presence and absence of this cerebral sound in chronic hydrocephalus, and the condition of the lungs, or lung, and its respiration during the presence and absence of the respiratory murmur, in the diseases of empyema and hydrothorax. When we began to operate upon the child the idea occurred to us that if the treatment should prove successful, as the cure advanced, and the quantity of water in the head gradually diminished, we might probably have an opportunity of observing the disease in some respects retrace its steps, of witnessing, for example, the

resuscitation of the cerebral pulsations, and redevelopment of the cerebral murmur, just as, after the operation of tapping the chest for empyema or hydrothorax, is frequently observed, the re-expansion of the compressed lung, and the redevelopment of its respiratory murmur. But such was not the case. The disease, as we have seen, in spite of all our exertions, proved fatal. Whether if it had been otherwise, and, instead of the improvement that was produced, a cure had been effected, we would have had the satisfaction of witnessing the confirmation of our views, must remain for further experience to determine. The editors, we may mention, of the "British and Foreign Medical Review," in their number for October, 1837, do not seem disposed to coincide with our views on this point.

43, Sackville-street, Sept. 21, 1839.

CASES OF CHRONIC HYDROCEPHALUS

SUCCESSFULLY TREATED BY PRESSURE.

By J. F. BARNARD, Esq., Senior Surgeon to
the Walcot Dispensary, &c.*

THE following cases illustrate the efficacy of a mode of treatment which Mr. Barnard strongly advocates in chronic hydrocephalus. Mr. Barnard informs us, that he was led to adopt this plan of treatment "from observing some adult heads, of such a size as could have been caused by no other than hydrocephalus in infancy." In these cases

Nature probably had effected a cure by a comparatively early union of the bones of the head, thereby forming a natural and most efficient bandage. Hence, the obvious indication to imitate Nature and apply gradual compression to the head.

CASE 1.—A child, about a year and a half old, was born to all appearance healthy, and continued so until six months old, when the head was first observed to increase in size. Mr. Barnard did not see it until the disease was so far advanced as to make him almost despair of its terminating favourably. The head was exceedingly large, weighing nearly as much as two-thirds of the rest of the body, and measuring in circumference twenty-two inches and a half. The child lay in a state of stupor, and was unable, in the least degree, to move its

* From a pamphlet recently published by Simpkin and Co., London.

head. There was slight strabismus and a rolling of the eyeballs, and almost constant startings of the muscles of the whole body, but more particularly of the face. The countenance had a cadaverous appearance, and the skin was of a yellowish colour; the eyes were sunk in their sockets, and inclosed in a dark ring. The flesh was flabby and seemingly hanging on the bones; the evacuations from the bowels were particularly unhealthy, sometimes green, sometimes blackish, but never of a healthy colour, nor indeed had they been healthy since half a year after its birth. The tongue was constantly covered with a thick white coat; when its head was moved it screamed, and seemed sensible of pain. The head was directed to be shaved perfectly clean, strips of adhesive plaster, about three quarters of an inch wide, were then applied completely round the head from before backwards, and so that the ends overlapped each other two inches behind, and covering the space from the eyebrows to where the hair commences, and as low down as the ears would permit; then, with cross strips, from one side to the other, over the crown of the head; and, lastly, one long strip, reaching from the forehead within half an inch of the root of the nose over the crown of the head, likewise to the nape of the neck. This gave effectual support to the parietes of the cranium. The whole head was kept constantly covered with linen dipped in cold water, and the child took no other medicine than a little castor oil, when the bowels required it. The good effects of this practice were evident; in less than a week the little patient could move its head much better, the squinting had disappeared, the secretions from the bowels were more healthy, and the startings of the muscles were less frequent. He had not screamed on rolling or moving the head since the bandage was applied. In a fortnight, the size of the head was reduced in circumference three quarters of an inch; the child was more lively, and began to take notice of the persons around it; the secretions from the bowels were perfectly healthy and evacuated regularly; the tongue nearly clean, and the skin of a natural colour; the countenance more composed and animated.

Two months after the bandage was first applied, the child appeared in every respect healthy, but the head was still larger than it ought to be—measuring twenty inches and rather more in circumference; the flesh was firm, and the skin of a healthy mottled hue. The bandage was worn about two months longer, having been renewed about once a fortnight. The bones were then united, and the head firm, and the child well, only requiring time to bring its muscles into action which had been so long quiescent.

CASE 2.—J. W., a child, ten months old, who, according to the account received from

the parents, was born perfectly healthy, and remained so for a month, when it appeared to fall into a sickly and unhealthy state, as they supposed from dry nursing, the mother being unable to suckle it. Two medical men in succession had been consulted, without advantage, and the head, I was told, had been enlarging for some months. It now measured 21 inches in circumference; the fontanelles were quite open and distended, and the bones loose and moveable; the complexion sallow, face bloated, muscles relaxed and flabby; pupils dilated and insensible to light, strabismus, and sometimes convulsions. She lay in a half comatose state, and appeared to be insensible to things passing around her; bowels regular, but excretions unhealthy. Mr. Barnard directed the head to be shaved, and then applied the adhesive plaster in the manner described, omitting the application of cold water.

March 5. In a week the general symptoms were improved, secretions from the bowels healthy, and the squinting gone; head not decreased in size; plasters firm; had taken her food better.

16. Has had no convulsions since second; bowels still continue regular, with only one dose of castor oil; countenance much improved, and complexion clearer; begins to take notice of things passing around her.

April 10. Plasters have begun to loosen; they were therefore, removed, and fresh applied. The head was found to have decreased half an inch.

From this time the health of the child regularly progressed, and every bad symptom had left her by the end of the month.

May 6. The child has gained flesh, and the muscles become much firmer. Appetite good, and has generally a healthy appearance. The plasters were again renewed, and the circumference found to have decreased an inch. They were again renewed in the beginning of June, and left off the following month, when the child appeared in perfect health, the head measuring eighteen and half inches.

CASE 3.—January 15. Jane Parfitt, a child eight months old, was born with a large head, which has sensibly increased up to the present time. Both the anterior and posterior fontanelles are very open, and the parietes distended; the bones of the skull are thin, moveable, and separated from each other. She is constantly in a recumbent position, from inability to sustain the head upright; pupils dilated, and insensible to light; slight strabismus, occasional convulsions, and great restlessness, sickness, and unnatural secretions from the bowels; appetite good, almost voracious; face pale and emaciated; an inattention to surrounding objects, amounting almost to coma. The head was shaved, and the plaster bandage

applied; the circumference of the head is nineteen inches. The compression produced no additional uneasiness, nor any increase of symptoms. Castor oil to be given occasionally, if required.

During the first month there was little apparent alteration in the size of the head, or the state of the patient, excepting that the convulsions were thought to be not so frequent, and the evacuations had a more healthy appearance. The castor oil had only been given twice; strapping quite firm.

March 2. Has had no convulsions for a fortnight; strabismus gone, evacuations natural and regular; head appears to be gradually getting firmer; expression of the face much more pleasant and healthy; sleeps well.

15. The plaster was renewed as it had become corrugated in several places; the long strip, from the forehead to the occiput, was omitted, as from the increased firmness of the head it appeared to be useless. At this renewal the head was found to have decreased in size half an inch.

The case went on well for six weeks, without one untoward symptom. The child has increased in flesh; the evacuations are natural; the convulsions and restlessness have entirely disappeared; the head is much firmer; the fontanelles are smaller, and the sutures are nearly closed.

May 3. Strapping renewed; the head, by measurement, has diminished but little; the child is better able to move it, although the muscles of the neck have not yet sufficient strength to sustain it. Has cut four teeth since the commencement of the treatment.

From this time the little patient gradually improved in health and strength. The plasters were again renewed for the last time about the latter end of July; the child was now able to hold up its head with but little oscillation. In September it appeared in perfect health, with a head rather larger than common (measuring about eighteen inches in circumference), but quite firm in every part, excepting a small portion of the anterior fontanelle. Mr. Barnard saw the child twelve months after, when it seemed, in every respect, to be well.

CASE 4.—At six months old I decided on submitting to the process of compression the head of this child, which measured $19\frac{1}{2}$ inches in circumference. The fontanelles were much open, and distended with fluid; the bones loose and moveable. The child was perfectly unable to sustain its head, and lay constantly in a recumbent posture; the countenance bloated and indicating distress; pupils dilated and insensible to light; strabismus, restlessness, and occasional convulsions; skin dry and harsh, and urine scanty; bowels rather costive. The head was shaved, and the plasters applied on the first of June.

June 15. There is a marked improvement in the state of the child; he was much quieter, and the strabismus had disappeared; the pupils contracted a little on the admission of light; countenance better; plasters firm.

July 2. Have had some trouble in keeping the bowels open with castor oil, but the child in every respect is better; the countenance with rather a comfortable expression; skin soft; and urine passed in a natural quantity. The plasters were renewed, and the head found to be reduced in size full half an inch.

21. The plasters again renewed. The child continues improving; the face has now a natural and pleasant expression, and every symptom of anasarca gone; bowels more regular, and requiring castor oil only about once a week. After this the plasters were twice renewed, and the patient gradually improved, both in health and strength, until the beginning of October, when he was attacked with measles, which, however, he passed through favourably; and in the beginning of December appeared to be in perfect health, with the head reduced to eighteen inches, and quite firm, except the anterior fontanelle, which was still partially open.

CASE 5.—A child, twelve months old, whose head was observed to have been increasing in size for the previous four months, now measured in circumference nineteen inches; the fontanelles and sutures were much open, but the parietes were not particularly distended, although fluid could be distinctly felt; the whole head was loose and flabby, and the bones as it were floating; the countenance shrunk and pallid, and the body generally much emaciated; pupils dilated, and one eyelid dropped, which the patient seemed perfectly unable to lift; slight convulsions occasionally; but usually it lay in a quiet, sleepy state; took its food rather voraciously; the bowels irregular, sometimes loose and sometimes costive, but the excretions always unhealthy. It had been attended by three separate medical gentlemen, who had given up the case as hopeless.

The head was shaved, and the adhesive bandage applied on the 10th of March; and, although compression was carried to a much greater extent than I had ventured on in any other case, no untoward symptom followed.

For three months no particular change in the state of the child took place; at this time, June the 10th, although the plasters were still firm, I thought it well, from the growth of the hair and other circumstances, to renew them, which accordingly I did. The bowels were still irregular, requiring occasionally a dose of castor oil, which answered the purpose exceedingly well, and no other medicine was given; the appetite

still continued good; the food consisted of bread and milk and arrow-root.

July 15. The plasters again renewed; no particular change in the state of the patient. The head appeared rather firmer, but no alteration in size; the bowels more regular, and evacuations somewhat improved. Diet ordered to be altered to beef-tea and jellies.

Sept. 5. Both eye-lids in perfect action; no convulsions; bowels regular, and evacuations healthy; countenance expressive of ease and comfort; can sit up with little assistance, and appears lively; head much firmer, and reduced in size half an inch; gains flesh.

Oct. 29. The head is firm and the sutures quite closed; the child begins to walk about, as yet rather staggering; plasters left off. The child continued to progress, and in three months was restored to perfect health.

CASE 6.—A child, three months old, was born with rather a large head, which had increased gradually up to this time, and measured seventeen inches. The symptoms were similar to the former cases, with the exception of squinting, and no dropping of the eyelid. The head was shaved, and the plasters applied on the 15th of August. In two months the condition of the child was much improved; the head firmer; no convulsions; bowels regular, and evacuations healthy. The plasters were re-applied twice in the course of the following three months, and no untoward symptom had presented itself. By the end of January, the child appeared perfectly recovered; the sutures had quite closed, and the anterior fontanelle nearly; but, strange to say, the head had not lessened in size from the commencement. It was suckled through the whole course, and seldom required the castor oil.

ON VACCINATION.

By EDWARD LEESE, Esq., M.R.C.S.

IN different ages of the world, more human beings have been destroyed by the ravages of small-pox, than by any other known disease; consequently, there cannot be a medical subject of greater interest and importance to society, than the attainment of care and knowledge with regard to the properties of the *vaccine lymph*, and the best mode of conducting *vaccination*, so as to call forth the prophylactic powers with which it is endowed. To show the average number of those who take variola after vaccination many statistical accounts have come before the public; none more startling than that from the Small-pox Hospital at St. Pancras; but when we take into consideration the grade of persons who are generally the patients of that institution, our marvel-

ling will somewhat abate; they being such as very probably had been vaccinated in the most careless manner, and whose representations as to what had previously been produced in their arms cannot always be depended upon. Had an account of the vaccinations done by their own officers accompanied this document a very marked difference would, no doubt, have been apparent; and it is consolatory to find that their report is at variance with the result of my own practice, as also differing, exceedingly, from the statements of others,—some taking their rise from the experience of men who have had before them wide fields for observation. That taken from official records for the district of Chelsea, by Mr. Barrett Marshall, carries with it the genuine marks of sound, practical information, and for careful personal investigation is particularly conspicuous.

That vaccination does generally, and for the most part, afford protection against variola, has been proved by the immense numbers that have, at different times since the year 1798, been submitted to it; and if this lymph, derived from the cow, possesses power to secure, with slight suffering, and no danger, 95 or 90 individuals in every hundred, why should it in a few instances disappoint our wishes and expectations? Some men have supposed the virus to have lost, by repeated transmissions through the human subject, a portion of those properties it in the first instance possessed. With other morbid poisons this is not found to be the case, nor is it with our ancient and destructive enemy, *variola*. The matter of this disease, and the infection, are as virulent in our time as they were when first described by Rhazes, and other Arabian physicians. If several individuals be inoculated from one and the same pustule the symptoms in each may differ, as the idiosyncrasy of each may vary; in one the disease may be mild and distinct, in another severe, confluent, and fatal; still, either of these forms may produce its reverse without our option; and if the mortality be not now as great as heretofore, it is to the better condition of our cities—of our habitations, ventilation, mode of living, and the improved method of treating the disease we are to look for the alteration, rather than to the disease *per se*; the *materia morbi* has ever been the same; the germ of the disease is developed *de novo* in each instance; the effects alone are modified by the extrinsic circumstances. So with regard to the vaccine lymph; there does not appear to be any good or well founded reason for supposing it to have lost any portion of those properties it possessed in the time of Jenner.

Small-pox has sometimes followed its use, not because the lymph itself has degenerated, but in consequence of the feeble and scanty manner in which it has been applied;