participate in this disordered state of nutrition, but more especially those portions presiding over emotion, namely, the upper part of the medulla oblongata and the mesocephale, and this I believe constitutes the essence of the disease. I have pointed out to you the one-sided nature of this affection, and you have seen that in the case in the hospital we have just been considering, it is the *left* side that is chiefly affected; this unilateral character shows that it is a brain-disease and not one of the spinal cord, as some have supposed, for diseases of the spinal cord affect both sides alike.

The opportunities of making *post-mortem* examinations in cases of chorea are extremely few, for the natural tendency of the disease is to get well, and in a large proportion of the cases recovery will speedily take place, with merely good diet, pure air, cleanliness, and a little purgative medicine; and this, by the way, affords an additional proof that the malady is dependent on impaired nutrition, as all these means have a tendency to bring about a healthy nutrition, and to render it vigorous. Another proof of this may be derived from the morbid state of the urine which sometimes accompanies the disease; it is often of high specific gravity, and in other cases it contains a superabundance of phosphates; the specific gravity sometimes ranges from 1030 to 1038, even when the urine is in pretty good quantity. On the 11th of this month our patient, Amelia Reynolds, passed urine of specific gravity, 1038; on the 13th, 1033; on the 14th, 1022; and on the 17th, 1026.

Treatment.—By far the majority of cases are of a mild kind, and very amenable to treatment. In the first place, the patient should have plenty of nourishing food, especially animal food, and such as is easily digestible; pure open air is also necessary. Purgatives are very useful, and when you are first called to a case of chorea, it is a good plan to give purgatives for two or three days, so as thoroughly to clear out the alimentary canal, but the purgatives should be of a mild kind, and not such as have a tendency to lower the patient's strength, and be used simply to unload the alimentary canal, and to get the secretions into a healthy condition, and this very often will alone suffice to accomplish the cure. After this kind of purging has been used, a systematic course of tonics must be adopted, and they will almost infallibly destroy the disease; all the tonics are of nearly equal value, but sometimes it will be found that one will fail, and that upon giving it up and trying another, the patient speedily has relief. Some prefer metallic tonics, as, zinc, iron, or arsenic, but I prefer the vegetable tonics, and of these, quinine; and if there is much anemia and pallor, I would add to it some preparation of iron. I seldom give arsenic; it is a very powerful medicine, and may do much harm, while all that is wanted can be accomplished by other means; it may produce a state of system which will render the patient miserable for the rest of life; it should not be employed unnecessarily or unadvisably, and only in extreme cases, and where other tonics have been used in vain.

The cold bath is a very useful means to employ; it

must, however, be used with great caution, or it may even do harm; it must be remembered that the complaint is one of emotion, and that a too sudden plunge into cold water, or a too abundant affusion, may frighten the patient, and increase the disorder; but the general effect of bathing is a marked improvement in all the symptoms.

In obstinate cases, which resist all modes of treatment, the use of electricity, as developed from the electrical machine, has been found of the greatest benefit.

MEMOIR ON TURNING, AS AN ALTERNATIVE FOR CRANIOTOMY AND THE LONG FORCEPS, IN DEFORMITY OF THE BRIM OF THE PELVIS, &c. &c.*

By J. Y. SIMPSON, M.D.,

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SECT. VII.—PHYSIOLOGICAL AND PATHOLOGICAL REASONS FOR THE LIFE OF THE CHILD NOT BEING NECESSARILY COMPROMISED UNDER THE PROPOSED PRACTICE.

It has been alleged that the preservation of the life of the infant is not compatible with its forcible extraction by turning through a contracted pelvic brim. It must perish, it has been argued, in consequence of the lesions it necessarily sustains, and especially—1st, in consequence of the injurious compression to which its head is subjected during the forced delivery; and, 2nd, in consequence of the required injurious traction upon its neck. Let us examine, in detail, each of these alleged necessary causes of death to the child under the practice in question.

1. IS THE COMPRESSION TO WHICH THE INFANT'S HEAD IS SUBJECTED INCOMPATIBLE WITH ITS SAFETY AND LIFE?

In the remarks which I offered under the last section, with regard to the question whether in turning in contracted pelves the degree of injury to which the child's head is subjected, is or is not compatible with its future safety and life, I confined the observations which I made, and the illustrative cases I adduced, to that form of cranial lesion in which the sides of the fetal skull are both compressed and indented. In some instances, however, even when the pelvis is much distorted, one of these states only, as the lateral compression alone, *without* the indentation of the cranium, is all that is required in order to reduce the head to the size necessary for its transit. On one occasion, a pelvis, the conjugate diameter of the brim of which was less than three inches, from projection of the promontory of the sacrum and disease of the symphysis pubis, I extracted a full-grown infant by turning; the head passing through in a flattened and compressed form, but

without any depression or indentation upon it. It is, I believe, unnecessary for me to prove, that when the extraction can be effected with this single lesion, the child is not necessarily sacrificed; because I have already proved, that even when the two lesions of compression and indentation co-exist, the presence of both forms of injury is not necessarily incompatible with the continuance of life. And sometimes by compression alone, more especially if the skull is not very fully ossified, the foetal head may certainly be very greatly reduced in size without compromising life. Dr. Denman conjectures that, to quote his own expression, "it may be reduced one-third below its original size, without the destruction or even injury of the child from the compression."*

It would, however, be improper to leave this subject without attending to some anatomical and physiological circumstances, in the structure of the foetal head, that enable it to bear this great degree of lateral compression which we have been considering, without the necessary destruction of life. Indeed, perhaps the very knowledge of these circumstances may impart to the mind greater faith in the correctness of the principles of the proposed practice.

We shall afterwards have occasion to see that by far the most frequent form of morbid contraction of the brim of the pelvis consists in the projection forwards of the promontory of the sacrum, and this is a kind of distortion specially adapted for the artificial delivery of the mother by turning, instead of craniotomy. Under this kidney-shaped pelvic brim, and other varieties of pelvic contraction, when the child is delivered by turning, the direction of the compression of the head is, as we have already found, lateral and transverse, or, in other words, in the line of its bitemporal or biparietal diameters, these diameters being reduced and shortened by it.

Now, of all directions, the *lateral* is the one in which the child's head can endure the greatest degree of compression, with the least degree of danger. The power of diminution of the child's head under labour "is greatest," observes Dr. Ramsbotham, "in the lateral diameter, and," he continues, "a full-grown foetal head may be lessened from side to side, without endangering the child's life, one-seventh of its own extent, or from three inches and a half to three inches."† Dr. Ramsbotham states that this degree of compression of the head,—namely, to one seventh, may be accomplished without the life of the child being endangered. We have just now seen that Dr. Denman imagines that the amount of compression may be carried much farther,—namely, to one-third, without the life of the child being necessarily injured and destroyed. No author has pointed out more correctly than Dr.

Radford, the fact that the child's head will bear, with comparative safety, a far higher amount of compression in its transverse or biparietal diameter, than in its longitudinal or occipito-frontal diameter. When the head is compressed in the first of these modes, or transversely, "the brain,"* he observes, "bears this alteration in the figure of the cranium with comparative little inconvenience, because the pressure it sustains is parallel with the fibres of some of those parts which lie between the two hemispheres, and with the falx, which in its natural state supports this organ. The pressure is also less injurious, because it is applied upon the sides of the vessels, but not in such a degree as considerably to influence their calibres." When, however, the direction of the pressure happens, as in the opposite or longitudinal axis of the head, the results are very different, and far more dangerous. Then "the alteration," Dr. Radford remarks, "which takes place in the head, is as follows:—A considerable diminution in the length of the occipito-frontal diameter is produced, in consequence of approximation between the frontal and occipital bones; the fontanelles become nearly obliterated, and the sagittal suture is wider and more prominent. The brain is pushed into this space, which is insufficient for its accommodation; its organization is injured, and the child, when born, is either dead or dies soon after birth. The pressure applied to the fore and hind part of the head has a tendency to change the relative situation of many parts of the brain. It forces one hemisphere from the other, which if carried beyond a certain degree, will inevitably produce laceration of the coats of the veins which pass to the longitudinal sinus; and this danger is increased by the great congestion which exists. These serious effects," he again states, (viz., apoplectic congestion, sanguineous effusion, and softening of the brain,) "are produced by the brain being compressed in a direction contrary to the course of the fibres of some of those parts which lie between the hemispheres, and also to the current of blood along the longitudinal sinus." Dr. Radford adds, that injuries of this character are sometimes met with when the head has been compressed and dragged through the pelvis with the long forceps; and he gives two dissections of the foetal encephalon to shew these results, (congestions, effusions of blood, &c.) in two cases in which the delivery was accomplished by this instrument. The cause for instrumental delivery and the application of the long forceps is not specified in one of these cases; in the other they were used on account of distortion of the brim of the pelvis. And certainly, if we employ the long forceps to overcome this difficulty, and place them as Deleurye, Haighton, Davis, Ramsbotham, and other excellent operators have recommended, with one blade over the face or

* "Introduction to the Practice of Midwifery," 1816, p. 352.

† "Obstetric Medicine and Surgery," p. 25.

* "Essays on Various Subjects connected with Midwifery," p. 7, &c.

forehead and another over the occiput of the child, we, in our extractive efforts, must compress the foetal head with the instrument so applied in its longitudinal or antero-posterior axis; and hence the actual direction of our pressure would endanger the child more than the actual degree of it. If, in the same case, and under the same obstruction, however, the child were extracted by turning, the required reduction of its head by being effected entirely by lateral compression, would be effected, as we have already seen, not only with much greater facility but with much greater safety to the infant; and the chance of injury of the brain and of congestion and sanguineous effusion upon it would be greatly less.

But, though the danger of cerebral congestion and its effects is diminished in lateral, as compared with longitudinal, compression of the child's head, yet it is by no means abrogated and removed; and in these cases of lateral compression and indentation of the cranium, which, under either footling or head presentations prove fatal, it is this *effusion* and its dangers, more than the mere *compression* of the proper structure of the brain, that seems to lead to this result. At all events, the cases I have already cited, in the last section, shew that the cerebral tissue may be compressed, or at least displaced, in a lateral direction by the grooved and depressed cranium, not only without destroying or endangering life, but without producing coma or convulsions, or any greater lesion of function than a mere temporary asphyxia, provided always there be no serous or sanguineous congestion and effusion accompanying and resulting from it. The escape of the infant under this form of injury in which we are thus interested, is favoured by other circumstances. When the foetal skull and encephalon are decreased by pressure in one diameter, they become lengthened and increased in others. In the form, for instance, of lateral compression resulting from extraction through a distorted pelvis by turning, while the head is flattened and diminished in its transverse diameter, it is temporarily lengthened to a corresponding degree in its vertical and longitudinal diameters. The anatomical peculiarities of the foetal skull, the existence of fontanelles and sutures between its component bones, and the consequent isolation and mobility of the individual bones themselves, freely admit of this; and so far under cranial depressions no doubt save the proper tissue of the brain from a deleterious and destructive amount of pressure in a way that, under the same form of injury, would be quite unavoidable with the cerebral contents of the solid adult cranium. Besides, the immunity of the infant at birth under such apparently severe injuries, may partly be owing to another and a physiological cause. The embryo and foetus possess a much lower physiological type of life than that which pertains to the adult; nor is the transition from the one to the other abruptly and entirely completed when the infant

passes from its intra-uterine to its extra-uterine existence. It is stated by Billard,* and I could quote no more accurate observer, that symptomatic fever seems incapable of being excited in the constitution of the infant by injury or otherwise till the time of teething; and in all probability lesions such as these to which the crania and encephala are subjected at birth in the class of cases we have been considering, are less dangerous and fatal in their effects, in consequence of the general law, that the power of resisting and repairing injuries is greater in proportion as the type of animal life is lower. It is true, besides, that individual infants, like individual adults, have a power of withstanding injuries much more than others, and in a way that it is impossible to account for on any known principles.

Speaking of the differences among children in relation to the danger they incur, from compression of the head during labour, Jacquemier remarks,—“One infant, of a feeble constitution, will resist a long compression by the parts of the mother, or by the energetic and reiterated action of the forceps; another, of a strong constitution, whose head has not been a very long time, or very strongly, compressed by the pelvis, or between the blades of the forceps, readily dies, or only has a few hours' existence.”†

Lastly, let me observe that the kind and degree of ossification of the bones of the foetal cranium at birth admit of their yielding and becoming depressed in a manner that no doubt contributes to the safety of the infant. The ossification is as yet, in general, so imperfect that the flat individual bones, such as the parietal and frontal, are still sufficiently thin and flexible to allow of their being partially indented and altered in shape by strong pressure applied to one point of their surface. They are at the same time usually so elastic as easily to be made to regain their former shape. And this indentation and restoration may occur without any appreciable fracture. In the first case which I have related, the right parietal and frontal bones, when their external surface was carefully examined after the removal of the scalp, were found deeply depressed but apparently not fractured. They afterwards fissured, however, at the site of the indentation when being dried and prepared for preservation. However, if the indentation is extremely deep or the bones unusually ossified, no doubt fracture will take place, but still probably without danger, if without internal or encephalic effusion.

We have found Velpeau, and the other authors we have quoted, generally stating that the compressed cranium, and especially depressed portions of it, usually become

* “L'absence de toute réaction fébrile, lors même qu'il existe des lésions graves chez les nouveau-nés; la promptitude, au contraire, avec laquelle la fièvre s'allume par la moindre cause chez les enfants qui ont dépassé l'âge de la dentition, imprime aux maladies de ces deux époques un caractère différentiel de la plus grande importance.”—*Maladies des Enfants. Preface, p. 2.*

† “Manuel des Accouchemens,” p. 770.

spontaneously replaced and restored in the course of a short time after birth. This is, however, not always the case; nor is its occurrence absolutely necessary for the viability of the child. In evidence of this I shall content myself by citing a single illustrative case.

CASE XXVII.—In the course of the last winter, after lecturing on the subject of these indentations in the foetal cranium, one of the students in my class, afterwards shewed me, on his own person, two deep impressions, one on each side of the cranium, which had been produced by the use of the forceps, and which had afterwards continued permanently depressed. He was 20 years old. On the right side of the head, a little above the ear, there were two pretty deep, curved fissures or indentations from two to three inches long. On the left side there was a single shorter indentation above the commencement of the temporal ridge.

2. IS THE TRACTION TO WHICH THE INFANT'S NECK IS SUBJECTED INCOMPATIBLE WITH ITS SAFETY AND LIFE?

The answer to this inquiry need not detain us long; in fact, the proper reply to it has already been virtually given, when considering whether the existing degree of cranial compression and indentation was necessarily fatal or not. For if, as we have found, children can survive after being turned and extracted through so narrow a pelvic brim, that the sides of their crania are sufficiently collapsed and depressed against the sides of the contracted maternal pelvis, to admit of the complete transit of the head, then it is evident that the neck is not fatally injured under the proposed traction; for in all these cases the degree of traction upon it was adequate to produce all the results wanted, without destroying the child. In these instances the extractive force necessary to drag the head through the contracted pelvis was applied to the neck, and the neck was found sufficient to bear it without compromising the life of the child; and I believe, as I have stated previously, that this will generally, if not always, be found to be the case, "provided the child be living, or only lately dead." It will be very different, however, if the child has been for some time dead, and decomposing; the structures of the neck, certainly, will not then bear such traction as is required to extract a full-sized head through a distorted brim; nor is it of any practical importance that it should, for such cases are cases for craniotomy, the child being dead, and forming no element for consideration in the mode or kind of delivery that is followed.

But, independently of the above decisive and conclusive testimony, and even if it were wanting, it would be easy, I believe, to adduce such cases and observations from obstetric clinical reports and other works, as would, *a priori*, have rendered probable what these cases render certain,—viz., that the degree of traction to which the child's neck is subjected under the proposed practice, is compatible with its safety and life.

I shall, for the sake of brevity, confine my illustrations of this remark to a note or two of some cases recorded by Dr. Smellie, and some observations offered by the ever-cautious Dr. Denman. Dr. Smellie gives various cases in which he was evidently himself astonished, as other practitioners have often been, at the excessive degree of traction which the neck of the infant stood during delivery in natural or artificial pelvic presentations, without the life of the child being compromised by it. For example:—

CASE XXVIII.—In a breech case, where the woman was long in labour with a large child, and was suffering from some hæmorrhage, Dr. Smellie brought down one foot, extracted the body and extremities, but the progress of the delivery was "stopped at the head," and required much traction for its transit, Dr. Smellie being "obliged to increase the force every attempt." "I pulled," he observes, "so long, and with so great force, before the head was delivered, that I was surprised to find the child alive." (Collection 32, Case 10.)

CASE XXIX.—In the next instance which he reports, one of the breech presenting in a narrow and distorted pelvis, after the body of the child was born, Dr. Smellie brought down the right arm, and "helped down the forehead; but," he adds, "before I could deliver the head, I was obliged to bring down the other arm, and saved the child also, although a good deal of force was used to deliver the head." (*Ibid.*, Case 11.)

CASE XXX.—A young woman, of "a small size," was in her first labour. The thighs of the child, which was large, presented. The labour was very slow and lingering. Dr. Smellie brought down the feet, and effected the extraction of the infant. "I delivered," he remarks, "the head, but not without a good deal of force. The child was alive, which I scarcely expected." (*Ibid.*, Case 18.)

CASE XXXI.—The breech presented, and the pelvis was narrow, and the child was born living. In attempting to deliver the head, Dr. Smellie tells us,—"I imagined it was impossible the child would be alive, as I found the neck was so over-stretched," having met "with greater difficulty than any that I ever delivered in that manner." (*Ibid.*, Case 13.)

In his classical and highly practical introduction to midwifery, Dr. Denman has devoted a special section to the consideration of the practice to be followed, in order to extract the head through the brim, in cases in which preternatural presentations happen to be complicated with distortions of the pelvis. His observations are most valuable in regard to the necessity of combined perseverance and caution, but they are too long to quote in detail. He tells us that "it has been said that children have been sometimes born alive when the strongest efforts, and those continued for many hours, have been made, to extract the head in this position, but I have not been so fortunate as to meet with any such instances, a short space of time having generally been sufficient to frustrate my hopes,

and convince me that the child was dead, though when the head has been detained a considerable time, a few cases have terminated more favourably than I could have expected, and I have been agreeably surprised with the discovery of some faint signs of life, which, by the assiduous and careful use of the common means, have been improved, and the life of the child at length perfectly recovered."

"When we have," he continues, "in vain exerted all the force which we think reasonable and proper, and which in some cases, must be more than any circumstance would be thought to require, it will be expedient to rest, for the purpose of gaining all the advantage to be attained by the compression of the head. On this account, the mother will actually suffer no more inconvenience, than would have been produced if the head had originally presented, and been locked in the pelvis. After waiting some time, we must renew our attempts to extract, and thus proceed, alternately resting, and acting with efficacy and resolution, and if the hold we may have of the body or extremities of the child does not suit, a silk handkerchief or other band may be passed round its neck, and this will be found a very handy and convenient instrument."

"It must be a *very great* disproportion," adds Dr. Denman, "between the head of the child and the pelvis, which is able to withstand this method of proceeding, if we persevere in it with prudence and steadiness; because the integuments of the head will burst, or the bones be bent inwards in an extraordinary degree, or even broken." If it fail, "It then only remains that we should lessen the head of the child, and the operation may be as easily performed in this, as in the natural presentation of the head." "But it will," he continues, "be scarcely believed, how seldom this operation is necessary under these circumstances, if we have not been in a hurry, but have acted with prudence; nor have I ever known any ill consequences follow the compression which the soft parts undergo, between the head of the child and the sides of the pelvis, if proper attention were afterwards paid to the state of the bladder and rectum."*

* "Introduction to the Practice of Midwifery," p. 497, 498, 499.

(To be continued.)

CASE OF VARICOSE ANEURISM, CURED BY LIGATURE OF THE BRACHIAL ARTERY.

By SAMUEL S. DYER, Esq., Surgeon, Ringwood.

(Read before the Medical Society of King's College.)

In the middle of the night of the 9th Jan., 1848, I was called to a man, 56 years of age, who had been suffering three days with symptoms of the then prevailing epidemic—influenza. My being sent for was occasioned

by a sudden aggravation of his symptoms. On my arrival, within half an hour, at his house, I found him labouring for breath, in great pain at the posterior and lower part of his chest, where small crepitation was distinctly audible; sounds elsewhere perfectly healthy. Pulse full, and bounding; skin hot; thirst and restlessness. He had shivered much on the preceding day, but used no remedies for what he considered a severe cold. I at once opened a vein in the arm, and allowed sixteen or seventeen ounces of blood to flow from a large orifice. There was no peculiarity in the bleeding, except its *freedom*, which did not of course surprise me, as it was just what I intended should occur. There was no *per saltum*,—no scarlet colour,—no evidence in short, of arterial hæmorrhage. When satisfied with the quantity taken, and relief afforded, I tied up the arm as usual, the flow of blood ceasing upon the removal of the ribbon tied around the upper arm. A brisk cathartic was administered immediately, a mustard poultice applied over the seat of pain, and potassio-tartrate of antimony, in half-grain doses, ordered to be given every two hours. In the morning I found all active symptoms relieved, and a continuance in the use of the tartar emetic soon removed every trace of inflammation.

It was not until the 11th instant, two days and a night from the time of venesection, that my attention was called to the condition of the arm, which my patient described as being *numb*, with a sense of tingling in the fingers. To confess the truth, the idea of my having cut into an artery never entered my head, and I considered this symptom must depend upon a wound of a branch of the cutaneous nerve; I therefore took but slight notice of the complaint, merely advising fomentation to pacify the man; but on my visit the next day I looked at the part for the first time, and then found a slight and circumscribed swelling at the puncture, (which was healed,) throbbing on the application of the finger, and attended with the not-to-be-mistaken whiffing sound, which (with pulsation,) ceased on firm pressure being made on the artery above. There was of course no doubt as to the nature of the case, so that I at once commenced a plan of treatment for the poor fellow's relief.

Five cases of cure by pressure, in analogous instances, reported by Mr. Tyrrell,* and others by Mr. Cooper; one case of false aneurism of the brachial artery, communicated some years since, by Mr. Salter, of Poole, to the Medico-Chirurgical Society, and which has been more recently reported in the *Provincial Medical and Surgical Journal*,† wherein (if I recollect the first communication correctly,) pressure was to have been simply used as a temporary relief, until the term of pregnancy had expired, and by that time it had effected a perfect cure; and another case wherein pressure was adopted in popliteal aneurism, which I once saw, induced me to try this palliative, or at any rate, *more mild*, plan of treatment. A compress was therefore applied over the tumour, one extending two inches up the brachial artery, and a bandage from the

* "Guy's Hospital Reports," 1835, Vol. i., page 20.

† *Provincial Medical and Surgical Journal*, Dec. 3rd, 1845.