

Remarks on a Method of effecting Delivery in cases of deformed Pelvis. By CH. D. MEIGS, M.D. Lecturer on Midwifery, &c. Philadelphia.

In cases where the diameters of the pelvis have been so much diminished by rachitis or mollities ossium, as to render the descent of the foetal head impracticable, it has been the universal custom either to perform gastrotomy, or to lessen the size of the cranium by evacuating its contents, and then make extraction by means of the sharp crotchet.

The method last spoken of is a good one, perhaps, and succeeds well enough where the diminution of the pelvic passages is not too considerable: nevertheless, we find, upon reference to the records, that a great many women have been the victims of such untoward labors, owing, measurably, to the violence done to the soft parts during the forcible extraction of the head, which was, perhaps, insufficiently reduced in size to admit of its transmission with safety to the mother—and probably in no less degree to the wounds that have been inflicted by the slipping of the crotchet,—a very common, and often unavoidable accident in its employment.

The firm bony structure, composing the base of the foetal skull, is nearly two inches and a half in its transverse or smallest diameter; mere excerebration, therefore, cannot be regarded as furnishing a good security against fatal contusions from the forcible extraction of such a body from a pelvis whose smallest diameter is not exceeding two inches in length. Such a body as the base of the skull, must, in order to pass through such a pelvis, present itself in an inclined attitude, or with a dip, but this dip or inclination can be but imperfectly communicated to it whilst all the bones of the cranium retain their connection with each other. To enable such a base to pass downwards safely, the skull ought to be taken to pieces, and those pieces removed in succession. In some instances, this successive ablation of the cranial bones has been effected by the crotchet, the point of which was used to pick out the bones, sometimes in portions not larger than the finger nails; as for example, in Elizabeth Sherwood's labor, so impressively narrated by Dr. Osborne. Those who have perused that account, will remember the extreme perplexity of that practitioner, and the infinite pains he took in his anxiety to avoid injuring her with the crotchet. He could not get the base of the cranium down until he had removed all the rest of the head.

Having had occasion to observe the difficulties and perplexities arising from labor in deformed pelvis, as they occurred in Mrs. M. R. of this city, whom I have now delivered in two accouchements, I venture to lay before my professional brethren, with great deference for the judgment of older and more experienced men, the impressions I derived from observing and conducting those two labors.

There is reason to believe that no other female has ever been safely delivered in this country, under the disadvantages of a pelvis measuring only two inches from sacrum to pubis, which, by the judgment of persons of the highest claims to confidence, is the extent in Mrs. R's case. I speak this, however, under liability to correction. Those who may feel interested in the details of Mrs. R's first labor, are respectfully referred to an account of it from the pen of Dr. George Fox, contained in the *North American Medical and Surgical Journal*, for October, 1831. It will be found upon such reference being made, that all the gentlemen then consulted, agreed that the diameter was as above mentioned.

Her second accouchement took place in the month of _____ last, the child having reached the full term of utero-gestation, an event which I greatly deprecated, having vainly urged, with the advice of Dr. Dewees, the operation for inducing premature delivery.

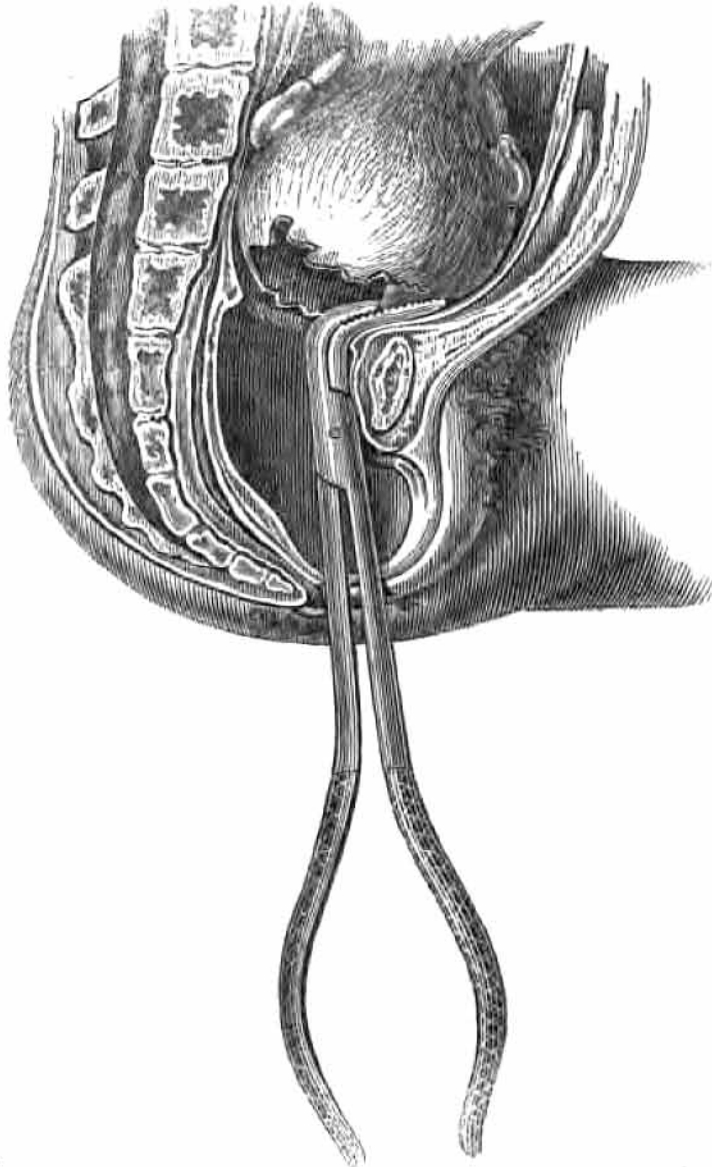
The experience I had acquired in delivering her in the first labor, convinced me that the crotchet was not to be relied upon in her case; not only because of the danger from contusion in extracting the skull, and from wounds made by the point of the crotchet, but also from the loss of time requisite for picking out the head bit by bit. The patient had almost fallen a victim to exhaustion in the first instance.

In reflecting upon the facts that had occurred in 1831, I found that the problem about to be solved in the second labor, was not that a head being retained above a pelvis too small to transmit it, to extract said head, but the question was to extract said head with the smallest loss of time, and least possible risk to the mother. I had already ascertained that the Cæsarian operation would not be submitted to.

I supposed that the head might be four inches in its bi-parietal diameter,* and I knew that the pelvis was only two inches. Under such circumstances the vertex will not present, but the

*I have measured many heads of children immediately after birth, that were four inches in the transverse diameter.

crown of the head will be the presenting part: but since the cranium cannot recede farther than is necessary to bring it in close contact with the posterior part of the mother's abdomen, there will be two inches of the head lying upon the plane of the superior strait, and two other inches projecting in front of the symphysis pubis. Or, in other words, the crown of the head will repose upon the top of the symphysis pubis—part of the head being behind, and part in front of that bone.



This is well illustrated in the accompanying figure, which was drawn by Mr. Wm. Mason, and cut by Mr. F. Gilbert, of this city.

This wood cut is also intended to exhibit a very important principle in the management of such a case, which is, that all that part of the cranium which lies in contact with the mother's back, is perpendicular to the opening of the strait, and may, when the skull has been opened, be seized with a straight forceps or pliers, like that represented in the second wood cut; whereas, all that part of the skull that lies horizontally over the opening can be taken hold of with a curved forceps or pliers, as is seen in the figure.

I have found, upon applying the test of practice, that when the thin portions of the cranial structure are taken hold of, either with the straight or curved forceps, they can be broken up with great ease, and removed with sufficient celerity; so much, indeed, that a head may be reduced to a very small remainder in a short time. I believe that if early arrangements are made for delivering the patient by this method, no danger will exist of exhaustion or excessive constitutional irritation being produced, before the extraction of the fœtus can be completed.

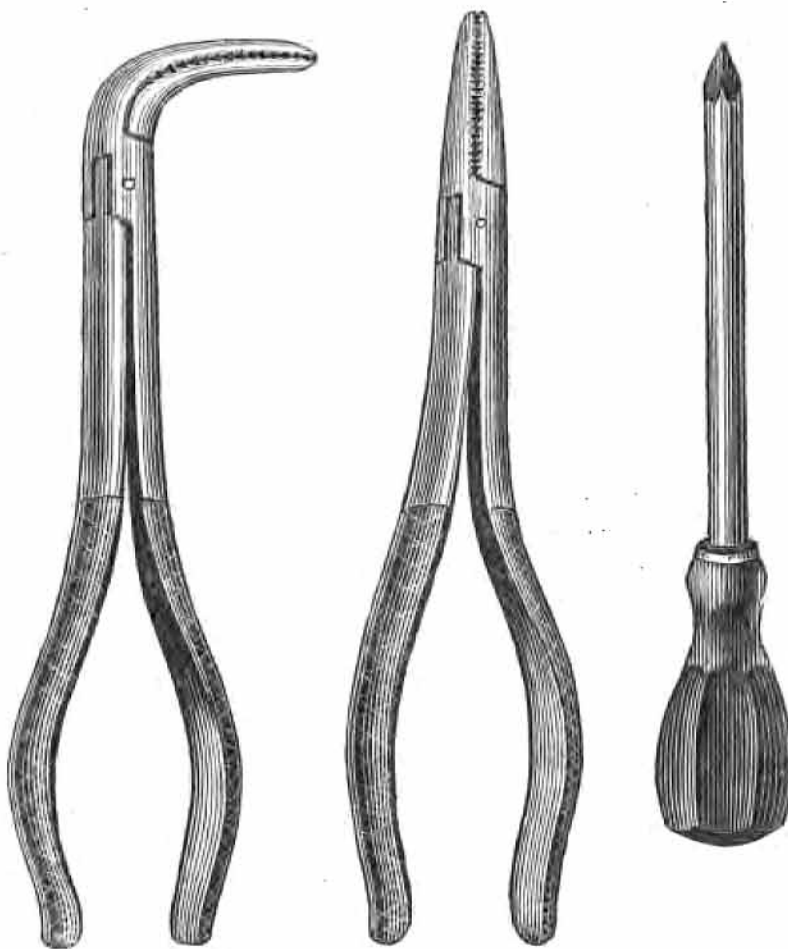
From the foregoing remarks, it seems to be very clear, that the practitioner, in undertaking to deliver a patient with excessive distortion of the pelvis, ought to proceed to his operation with a full understanding, that after perforation he is to remove all the posterior parts of the presentation, with the straight pliers, and all the anterior and lateral ones, with the curved pliers; making attempts, from time to time, to draw the head down, as he finds reason to believe that it is sufficiently broken up. Such are my views of the mode that ought to be adopted. I at least, am fully of opinion, that Mrs. R. could not have been rescued by me, had I relied only upon the crotchet for her delivery.

I shall close this communication, after I shall have added a few remarks concerning the time that ought to be selected for commencing the attempt to deliver. It is proper to observe, that females suffer less in the first hours of labor, in which the head cannot engage, than in those wherein the head sinks early into the excavation. This depends upon a well known principle, viz: that the contractions of the womb are violent and powerful in proportion as that organ becomes smaller or more condensed. If the head becomes arrested in the excavation, and particularly after having escaped from the uterine cavity, it is urged with great power upon the tissues, which resist its further descent. Under such circumstances, constitutional irritation is

rapidly developed; whereas, under the more lenient exertions of the uterus, while the entire fœtus is contained in its cavity, not only is the impulsion of the head against the resisting tissues far more moderate, but in the intervals of the pains no pressure exists. Hence a woman remains long in labor, with little constitutional disturbance, in the kind of cases I am discussing. These observations are illustrated, and their truth confirmed, by reference to some of the most celebrated examples of such labors, which are recorded in the books.

Whenever, therefore, a woman is fallen in labor, who is known to have an impracticable pelvis, and in whom the Cæsarian operation is rejected—if the perforator is to be resorted to, it should be applied as soon as possible, in order that, the child having ceased to exist, all the facilities to be derived from incipient decomposition of the fœtus may be enjoyed. Twenty-four hours after the death of the fœtus, the firmness and cohesion of its soft parts is so much lessened by maceration, in an elevated temperature, equal probably to 99°, that the extraction of the pieces of bone is exceedingly easy. I should, therefore, recommend that all attempts to deliver should be delayed, if possible, for twenty-four hours after the perforation of the head. This recommendation is founded on what I experienced of difficulty in getting out the portions of bone after I had broken them up, when I made the attempt antecedently to the occurrence of symptoms of decomposition. The patient can be quieted with anodynes, and supported with light nourishment, and if needful may, by venesection and cold drinks, be kept tolerably free from vascular disturbance during the whole period of such delay as may be deemed advisable.

The cut which I subjoin shews the form of the perforator which I employed in Mrs. R's case. It is a trocar or drill, ten inches in length from the handle to the point. I was obliged to make use of such a means of penetrating the skull, since no suture was practicable, and the common Smellie's scissors could not be made to perforate the solid bone, any direct pressure causing the head to roll, or move upwards, and any rotatory or drill like motion with it being impossible without great danger of wounding the lips of the os uteri. The same cut exhibits both the straight and curved pliers. They are eleven inches in length, the sides of the mandibles are rounded, and the gripe is serrated in order that they may not pinch any tissues except those intended to be included in the bite, which, on account of the serræ, is very sure.



I have never seen Baudelocqué's (the younger) instrument, *pour broyer la tête*. Dr. Davis' craniotomist, and his craniotomy forceps, were found incapable of useful application, upon several attempts that I made to use them in my cases.

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